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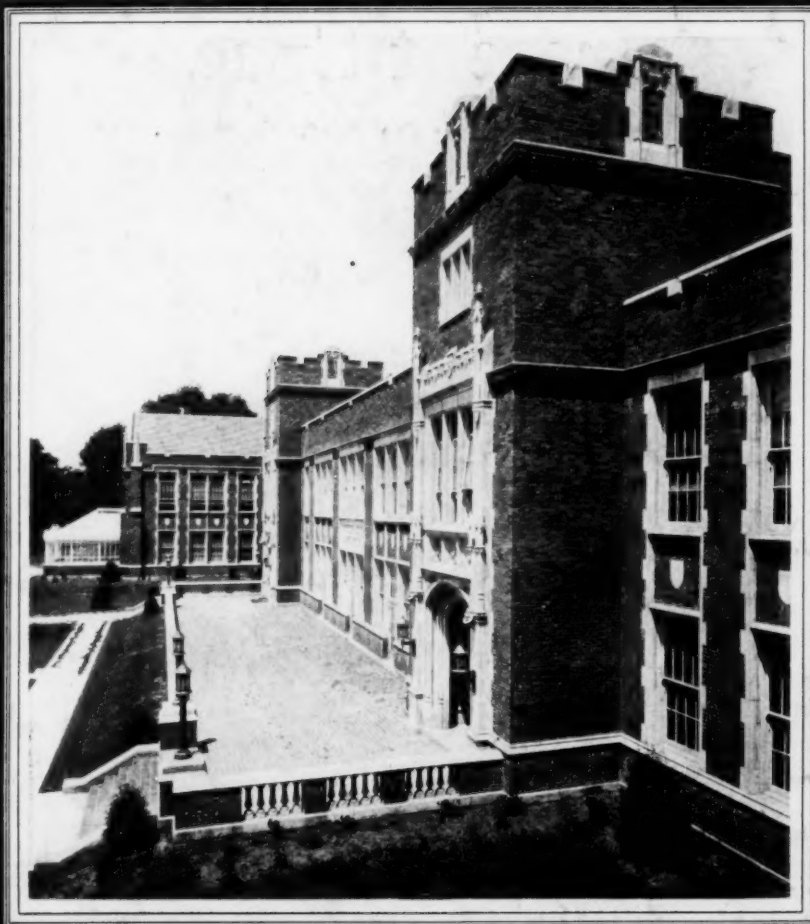
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The NATION'S SCHOOLS

DEVOTED TO THE APPLICATION OF
RESEARCH TO THE BUILDING, EQUIPMENT
AND ADMINISTRATION OF SCHOOLS

VOL. I
No. 1

JANUARY
1928



Published by THE NATION'S SCHOOLS PUBLISHING Co., Chicago

R v.1 Jan.-June 1928

Science Room, Hope Street High School, Providence, R. I.
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Increase the Pupil Capacity of Your Present Space

These new Lincoln Science Desks are solving the problem of many schools—that of increasing the pupil capacity of present buildings. We guarantee them to do that—as well as offering many other advantages.

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These desks are used in the Lincoln School of Teachers College, New York City, New York; University High Schools at Ann Arbor and Iowa City, and in other prominent schools, where the highest educational standards are desired.

Before you make plans for future laboratory equipment, ask us for our catalog of Lincoln Science Desks.

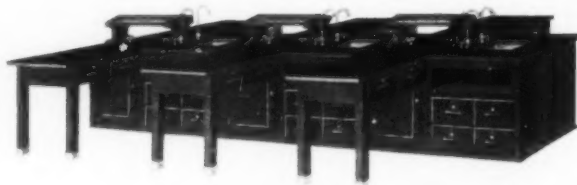
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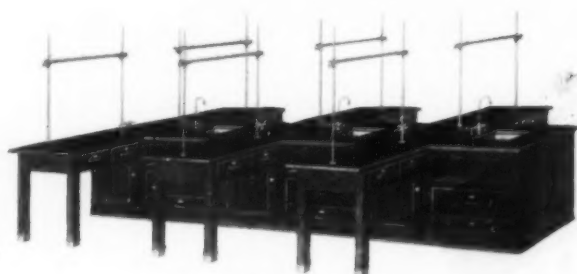
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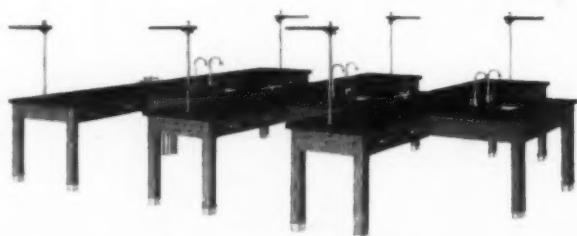
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PRE

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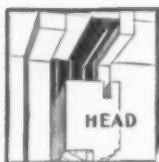
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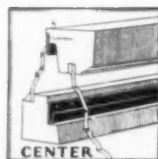
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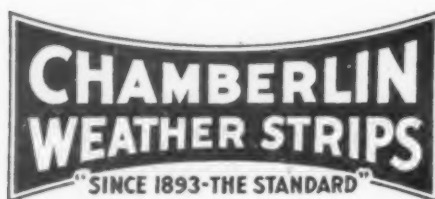


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Cleveland Heights High School, Cleveland, Ohio. Completely equipped with Chamberlin Weather Strips. Franz Warner, Archt. The Schirmer-O'Hara, Co., Contractors, Cleveland, Ohio.



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January, 1928

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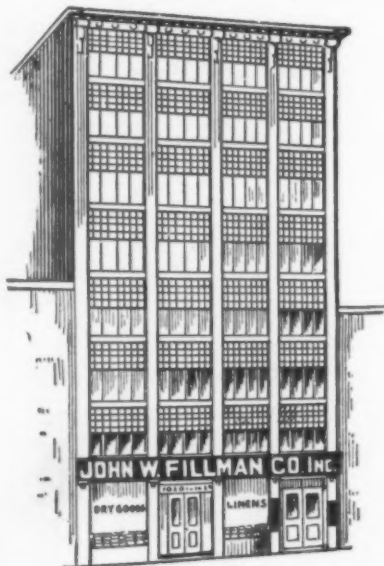
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COLLEGE AND SCHOOL LINENS



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SHEETS

PILLOW CASES

TABLE LINENS

NAPKINS

TOWELINGS

SPREADS

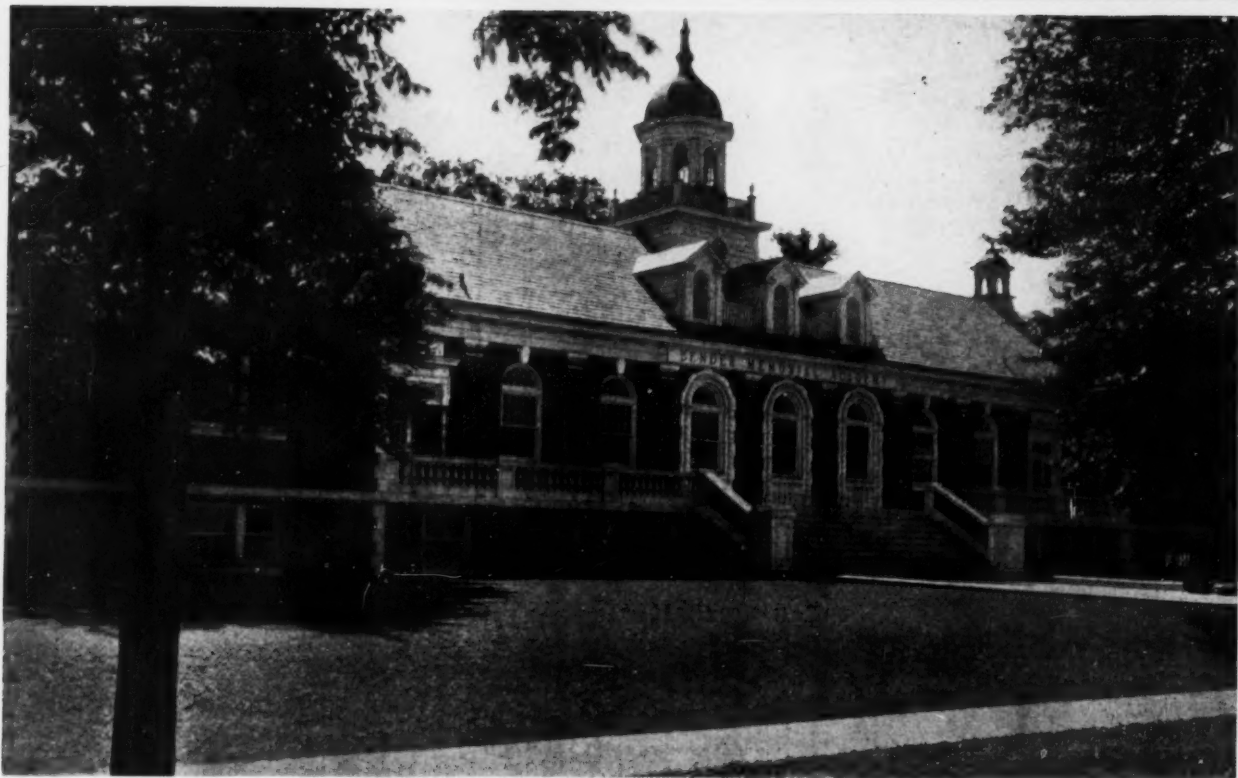
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Manufacturers of Complete School Equipment
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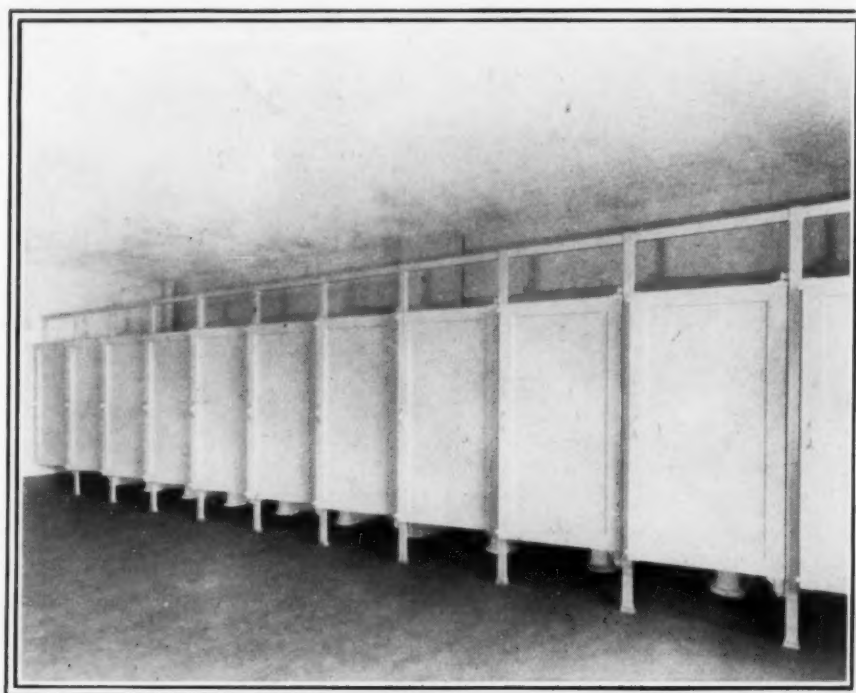
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Moeser Extended Arm Top

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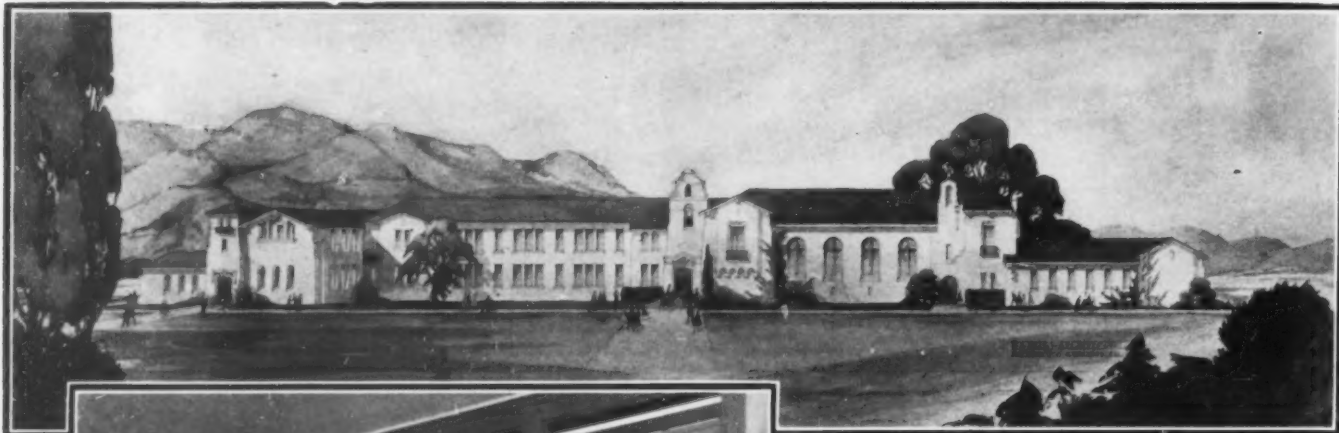
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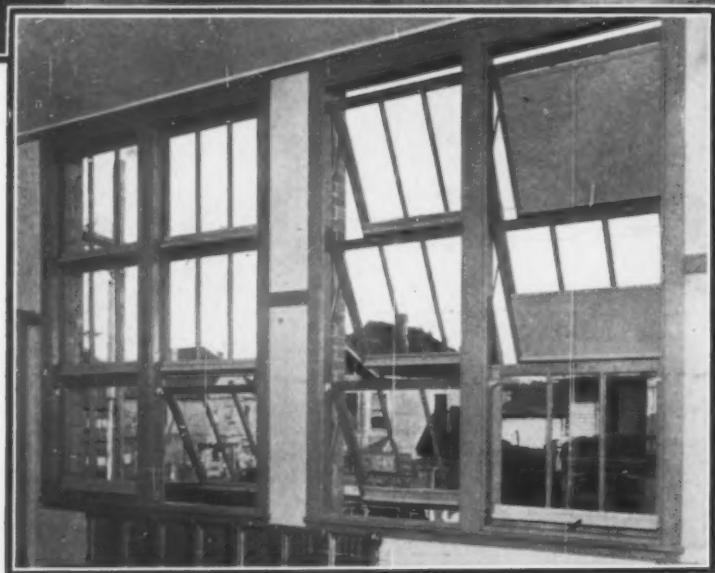
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Awning Type Window Excel for Schools



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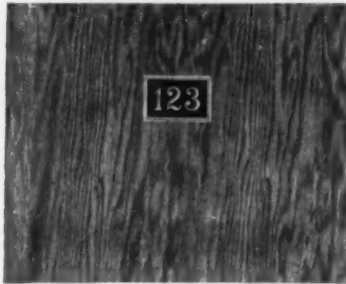
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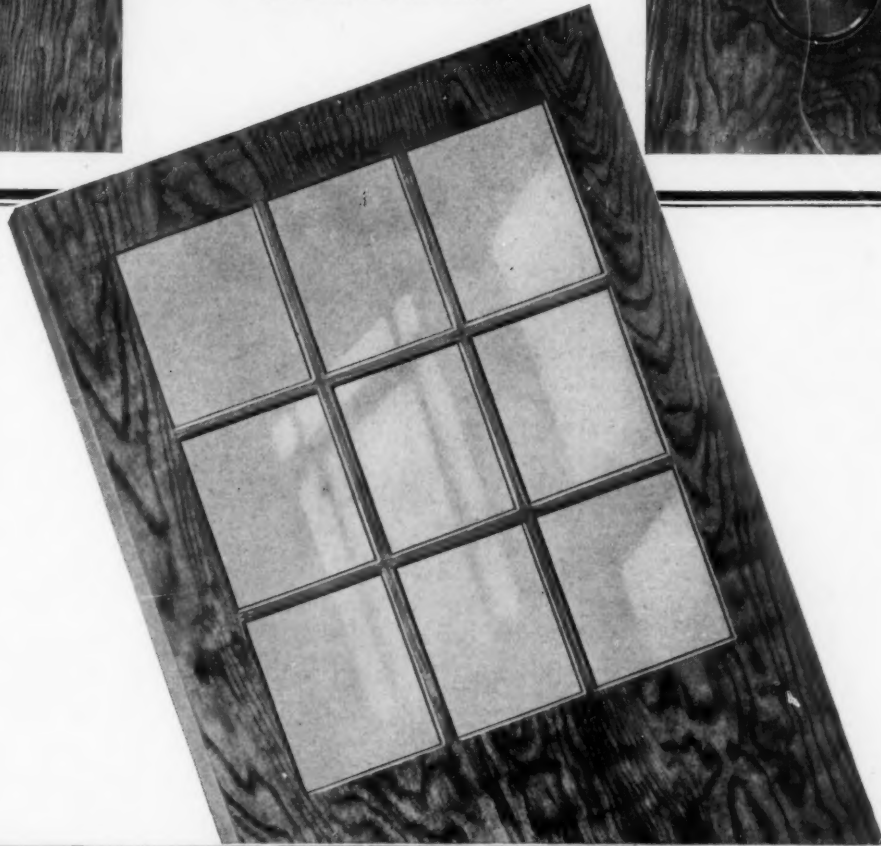
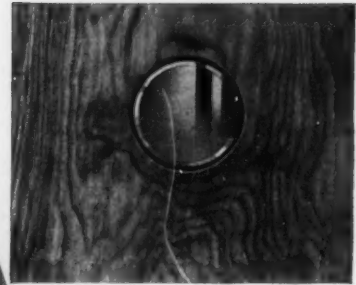
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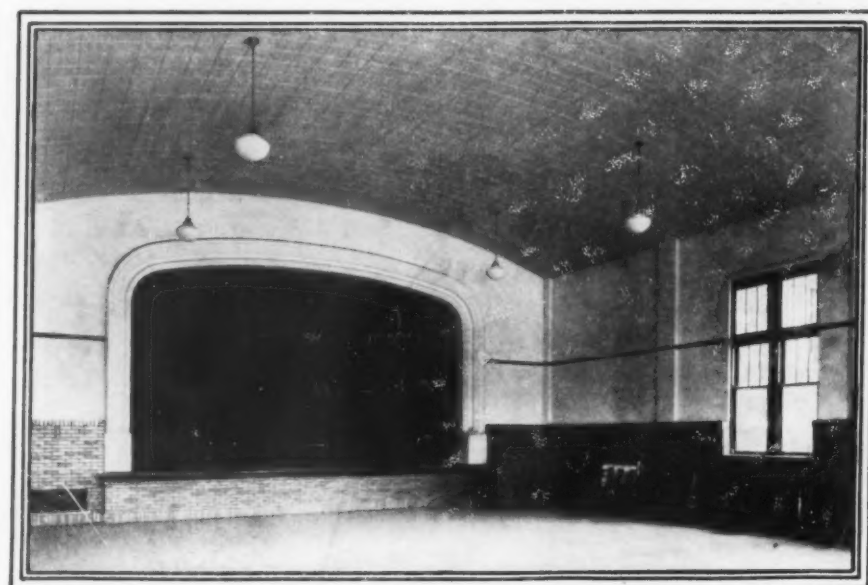
LESS NOISE *and* Better Hearing for your schools



Your students concentrate with greater ease and do better work when their classrooms, auditoriums, gymnasiums, etc., are quieted with Acousti-Celotex.

NOISE is a constant irritating factor in schools. It disturbs concentration and is a strain on the nerves. More than one sensitive youngster has failed in his school-work because of this undue nerve-wear. And noise is equally hard on teachers, for it distracts their attention and wears down their patience.

But you can easily spare your students this waste of mental energy. For Acousti-Celotex, applied to ceilings and walls of *any* school room, will reduce sound disturbances of *all* kinds. This strong fibre tile has remarkable sound-absorbing qualities. It creates quiet by the simple process



Gymnasium-auditorium, School No. 34, Indianapolis, Indiana. Acousti-Celotex was applied here to quiet noise and confusion, and to eliminate unpleasant echoes. D.A. Bohlen & Son, architects; Chas. E. Wehr Company, Acousti-Celotex contractor.

of *swallowing-up* distracting noises and echoes.

Acousti-Celotex, installed in gymnasiums, will prevent noises arising there from reaching recitation and study rooms. Also the noisy confusion coming from school shops, corridors, cafeterias, chapels, band and chorus rooms is greatly reduced with this sound-absorbing tile.

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Acousti-Celotex, type BB, has a sound-absorbing efficiency of 70%—the highest of any material on the market. Small openings, drilled *deep*

into the tiles, act as minute tubes in carrying sounds to the noise-absorbing fibres *inside*.

Because of these deep openings, paint cannot interfere with the sound-absorbing efficiency of Acousti-Celotex. So you can have the tiles decorated in beautiful colors and designs. And since the tiles come in finished, complete units, they are easily installed in any building, new or old.

The Celotex Company will be glad to tell you more about the color effects you can obtain with Pre-decorated Acousti-Celotex. And you will be pleasantly surprised at the cost.

THE CELOTEX COMPANY
CHICAGO, ILLINOIS
Mills: New Orleans, Louisiana
Branch Sales Offices in many principal cities
(See telephone books for addresses)

ACOUSTI-CELOTEX

FOR LESS NOISE—BETTER HEARING

Points of View

WHAT, YOU MAY ASK—and probably will—do you propose to tell us in this new publication of yours, and who are the ones who will do the telling? Both of which are perfectly reasonable questions that cannot be put off with a knowing nod and a meaning smile that would say “Just wait and you’ll see.” You to whom we wish to talk each month have a right to learn whether we intend to be worth while or, to use a trite expression, just another magazine.

To begin with, we are not going to be just another magazine and we have no intention of usurping the fields of education that are so well covered at the present time, but we do intend with our whole heart and soul to present for your approval all of the pertinent facts and figures regarding the administering of schools, be they large or small, public or private. We hope to keep a little ahead of the procession but at all times in perfect step with the moving column of school progress. We hope to develop that sixth sense of seeing around the corner and we shall strive to become so helpful that our efforts will call forth your approval.

The launching of a new publication in any field should be no hit or miss matter. Sane and sober thought and much preparation are always necessary before the first issue is sent forth to the public that will be served. There must be considered those people who will read the magazine. An accurate survey must be made to determine what they will want and minute preparations must be made to see that the subject matter is presented as attractively as possible. Our magazine must be valuable to the reader and must be sent to him in such workmanlike shape that he will get the most value from it with the least possible effort on his part.

When one begins to analyze the school

field its greatness is at once apparent. It is our biggest industry and our most important. Its commodity is culture in its broadest sense and its workmen are the highest type of men and women—educators who are devoting a lifetime to fitting the youth of the country with weapons of strength with which to fight the battle of life.

During the coming year there will be expended more than two billions of dollars for the education of thirty million pupils in school buildings that have cost approximately five billion dollars. In thirty-five years the cost of educating our children has increased 1400 per cent, while our population has increased only eighty-three per cent. Thirty-five years ago only 68.6 per cent of the children of school age attended schools whereas today there are eighty-three per cent enrolled. In 1890 only 1.6 per cent of those enrolled were attending high-schools, while to-day the percentage has mounted to fifteen. A mighty field, there is no doubt.

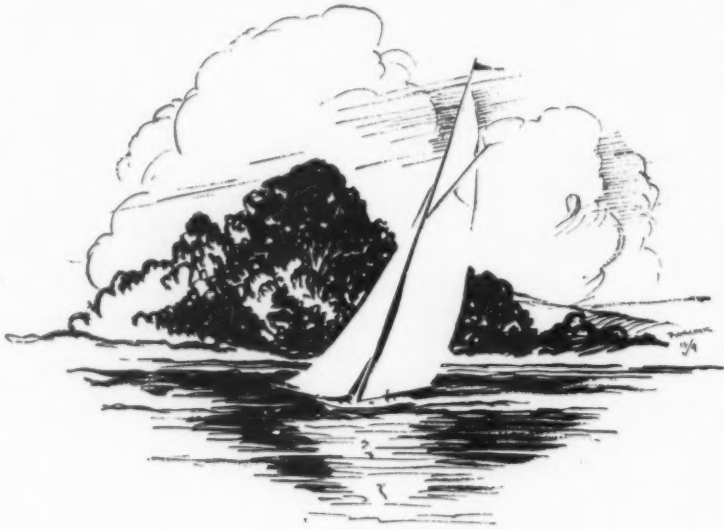
May we now ask you to turn to another page and read over the list of editors who will co-operate in making this magazine outstanding in every particular? These men and women are among the leaders of thought in educational activities of the country and will guide our destinies into channels whereby definite and concrete benefits will result. We have dedicated ourselves to a monumental work and, while we are striving to help you, we are depending upon you to help us by frank and open criticism and by contributing new thought on every important problem. We are ambitious, and we are determined, and we have taken for our standard the phrase that appears on the cover,

“Devoted to the Application of Research to the Building, Equipment, and Administration of Schools.”

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Durability
Economy
Beauty



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NATURAL

Write for free booklet, "The New Color Enchantment in Hard Maple Floors."

In schoolrooms, assembly halls, hallways, gymnasiums, the exceptional cleanliness of Northern Hard Maple Flooring is an important factor. Tough-fibred, tight-grained, permanently smooth—this unique wood offers no open lodging spaces for dust and dirt. It is easily swept clean as new.

Northern hard maple will not sliver or splinter. Even the constant pounding and scuffing of youthful feet will not harm its surface. It actually outwears stone!

School physicians recommend Maple floors, moreover because of their warm, dry, cushioning effect under the feet. Experience shows that "colds" and absences are substantially less in schools where this flooring is in use.

Consider these features of Northern hard Maple. Consider the fact that with the homelike atmosphere of Maple floors comes genuine economy. Consider the advantages of having floors that provide fine anchorage for desks—and you will recognize the advisability of flooring with Maple!

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Let our Service and Research Department assist you with your flooring problems. Write us.

MAPLE FLOORING MANUFACTURERS ASSN.

1780 McCormick Building

Chicago

The NATION'S SCHOOLS

DEVOTED TO THE APPLICATION OF RESEARCH TO
THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

VOLUME I

JANUARY, 1928

NUMBER 1

Equipping the Classroom for the Pupils' Needs

*Consideration in planning the school building so that
the maximum efficiency may be gained at the mini-
mum expense is the principle of proper construction*

BY HOMER W. ANDERSON, ASSISTANT SUPERINTENDENT OF SCHOOLS, DENVER, COLORADO

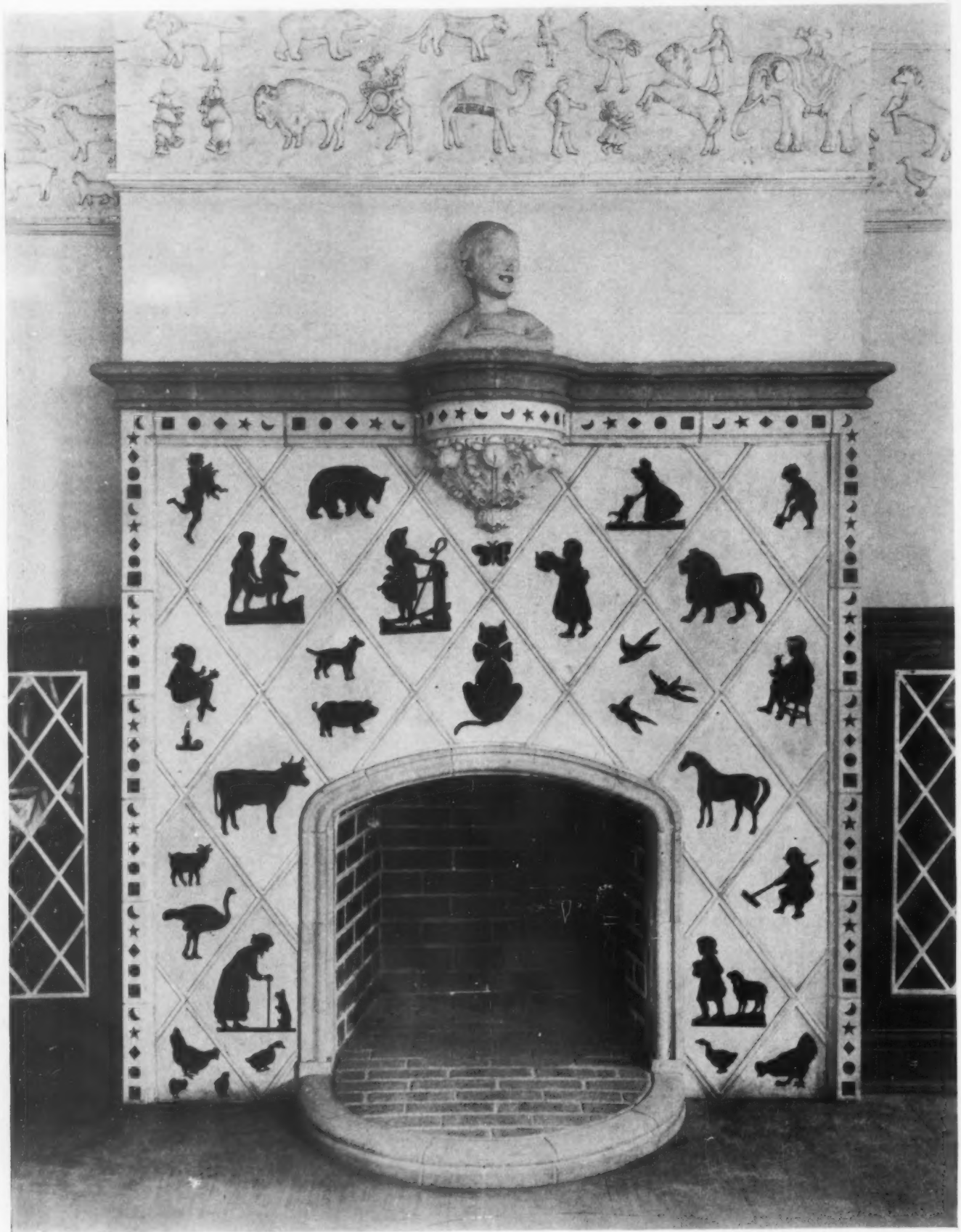
A CLOSE study of the modern school building will show certain remarkable changes that have taken place within recent years in the exterior of the building, its organization, and the rearrangement of the interior details of all types of classrooms. Schools are beginning to take on the appearance of educational institutions, and classrooms the atmosphere and appointments of laboratories for teaching and learning. If one were to seek for reasons for these changes he would probably find three or four major forces at work that have brought them about.

One force influencing progress in school building problems may be termed economical. It was brought about by a cessation of building operations during the war followed by a great influx of pupils into the public schools, which made it necessary to build extensively and to secure a maximum of building capacity for the money, which was usually hard to get. A second influence is the greater knowledge of the lighting of classrooms that has brought about radical changes in classroom interiors in recent years. A third force is the recent progress toward a program of instruction that calls for greater freedom and greater activity on the part of pupils individually and socially. Simultaneously with these developments the educator has gradually assumed a larger and more important part in the planning of school buildings than in the past. With the acquisition

of more knowledge of school needs and the assumption of authority by school men and women in planning schools has come the tendency to design the building and the classroom to fit a broad, socialized program of instruction. I shall discuss the effects of these factors on the interior arrangements of classrooms as I see them, with no idea that the order of presentation is logical or that the brief discussion possible tells the entire story.

It is not necessary to point out the tremendous growth both in the number of pupils and in the expenditures for public education and school buildings since the World War. This fact is well known by educators and I believe I have seen certain signs indicative of the public consciousness at least of rising costs. The growth in the number of pupils and the increase in the amount of money spent for school buildings have brought on a very definite movement toward economy in the planning of school buildings. It is not my province to discuss this from the standpoint of the building as a whole, but to restrict the thoughts presented to the progress made in more economical classroom arrangements.

In the first place the recently built standard classrooms, laboratories, and shops in all types of schools are more compact than those built a few years ago. In elementary schools the classroom is from twenty to thirty-five per cent smaller in floor area and often as much as fifty per cent



This Fireplace with its novel utilization of nursery rhymes—also carried out in the frieze around the room—emphasizes the trend of modern decoration and furnishing as adapted to school architecture.

smaller in cubical contents. The same facts hold for high-school classrooms. It was not uncommon to find classrooms twenty-eight feet wide and thirty-two feet long, which at fifteen square feet per pupil would accommodate sixty pupils, in elementary school buildings built fifteen or twenty years ago.

The Other End of the Swing

The standard classroom in recently erected elementary school buildings is approximately twenty-two feet by thirty feet, which at fifteen square feet per pupil would accommodate forty-four pupils. In other words, the pendulum governing the size of the modern classroom has swung from one extreme possibly to the other. There is no doubt in my mind that the elementary classroom built a few years ago was too large, but I am not sure that the modern room in all cases is large enough for the up-to-date socialized school activities. It is not the purpose in this article to make any statement regarding the proper size of an elementary, junior, or senior high-school classroom. In the final analysis the size must be determined by a knowledge of the most efficient size of class, the type of activities engaged in, and the furniture required for the given number of pupils to carry on these activities. This is a problem that still requires considerable research.

However, the reduction of the floor area of classrooms has taken place in all types of schoolrooms including academic classrooms, shops, laboratories, commercial, art, home economics rooms, and the like. In high schools erected twelve to fifteen years ago it was not uncommon to find physics and chemistry laboratories so large that it was possible to divide almost any one of them into two rooms each sufficiently large to accommodate in the same activities the original number of pupils for which the laboratory was planned. Recent progress in the planning of these laboratories indicates that a room approximately twenty-three feet by forty feet will accommodate thirty-two pupils with adequate room and in an efficient teaching unit.

The facts I have been able to observe convince me that the recent tendency has been toward more compact classroom floor areas for practically all school activities. I stated at the outset that this was due mainly to economic reasons, but the more scientific study of the schoolroom requirements of the educational program has had considerable to do with this change.

Just as we find the areas of classroom floors from twenty-five to forty per cent larger in the schools built fifteen or twenty years ago than today we find in the modern building a lower ceiling

height. I have seen many buildings in the East, the middle West, and the West built a few years ago with ceiling heights ranging in the clear from thirteen and one-half feet to sixteen feet. In Denver a recently abandoned high-school building boasted of twenty-foot ceilings. The modern school building economizes considerably on these heights. Probably the most common heights of school ceilings in regular classrooms today range from eleven and one-half feet to twelve and one-half feet. Interpreted in cubical contents the elementary classroom a few years ago contained from eleven thousand to thirteen thousand cubic feet, while the modern elementary classroom contains in the neighborhood of eight thousand cubic feet. In other words, the modern classroom saves from three thousand to five thousand cubic feet over that erected a few years ago. Exactly the same change has been evident in the ceiling heights and cubical contents of classrooms, laboratories, and shops in junior and senior high schools. The lowered ceiling heights were probably possible only after we had learned that narrower classrooms are better lighted. However, the change certainly effects considerable economy.

Develop Smaller Auditoriums

We have learned by experience in recent years that it is usually impossible to build the auditorium in the junior and senior high school to accommodate the entire school. No modern school is built today in a growing community without providing means for the easy expansion of the building. We have not yet learned how to build an elastic auditorium, so that it will accommodate the present school capacity and the capacity doubled or tripled a few years hence. Recognizing this fact, many cities in recent years have deliberately planned auditoriums that will at any time accommodate only a fraction of the increasing school capacities of the institutions to which they belong. This movement is in line with the spirit of economy of space prevailing to-day in the planning of school buildings, and I am not sure but that in the last analysis the smaller auditorium is also a better and more effective unit for instruction and the development of school spirit.

In the elementary schools, especially the platoon or work-study-play schools, the auditorium is planned primarily as a place for teaching and not for school assemblies. An effective teaching program cannot be carried on if the room is too large. So here we have the needs of the school program and economy of space joining hands to secure a smaller, more compact unit.

Another change that is taking place in the arrangement of elementary school classrooms, due



Typewriting room, West High School, Denver.

partly to economy and partly to other factors, is the elimination of the wardrobe from the interior of the classroom and the placing of steel lockers in the corridor walls for the accommodation of pupils' wraps. The new method is undoubtedly cheaper, and permits the arrangement within the classroom to be based absolutely on the teaching program and not on a combination of teaching and wardrobe problems.

Three Significant Changes

Closely following the economic pressure for more compact teaching units is the study of the lighting of classrooms that has rather recently brought about three significant changes in the planning of classrooms. First, the elimination of multilateral lighting and the adoption of unilateral lighting for classrooms is probably the most significant change in that it eliminates the cross lights and produces a more hygienic eye condition for pupils. It has permitted the placement of children in the room so that the light will fall upon their work from the left for right-handed pupils, and the placement of left-handed children so that the light will fall upon their work from over their right shoulders.

The second change in the method of lighting that is effected possibly as much by the recognition of the need for good light as from the economic urge is the general adoption in the schools recently built of narrower classrooms, that is, narrower from window to inside wall, so that ade-

quate light will be furnished the pupils furthest removed from the windows. All are familiar with the high-school room short from front to rear and long from window to inside wall with the windows placed at one end of the room, thirty or more feet from the inside wall. In these rooms the pupils on the inside worked either in twilight or in artificial light.

This arrangement has changed in late years so rooms are long from front to rear and narrow from window to inside wall. This significant rearrangement makes it possible for windows to be placed on the long side, lighting efficiently all parts of the room. Windows are also built so that they extend to the ceiling. It has been determined that the best light for the innermost parts of the classroom comes from the upper portion of the window. It is always desirable to locate the window as close to the rear wall as possible. Some experts urge a blank wall space of six or seven feet between the front wall of the classroom and the windows. This regulation, however, is almost impossible to follow in every instance, but is desirable where it can be attained without derangement of the educational plan of the building and the program to be conducted therein. All of these changes have brought on more window area and the elimination of wide mullions, so that a well-planned schoolroom will be provided with lighting surface ranging in area from twenty to twenty-five per cent of the floor area.

Along with the study of schoolroom lighting and

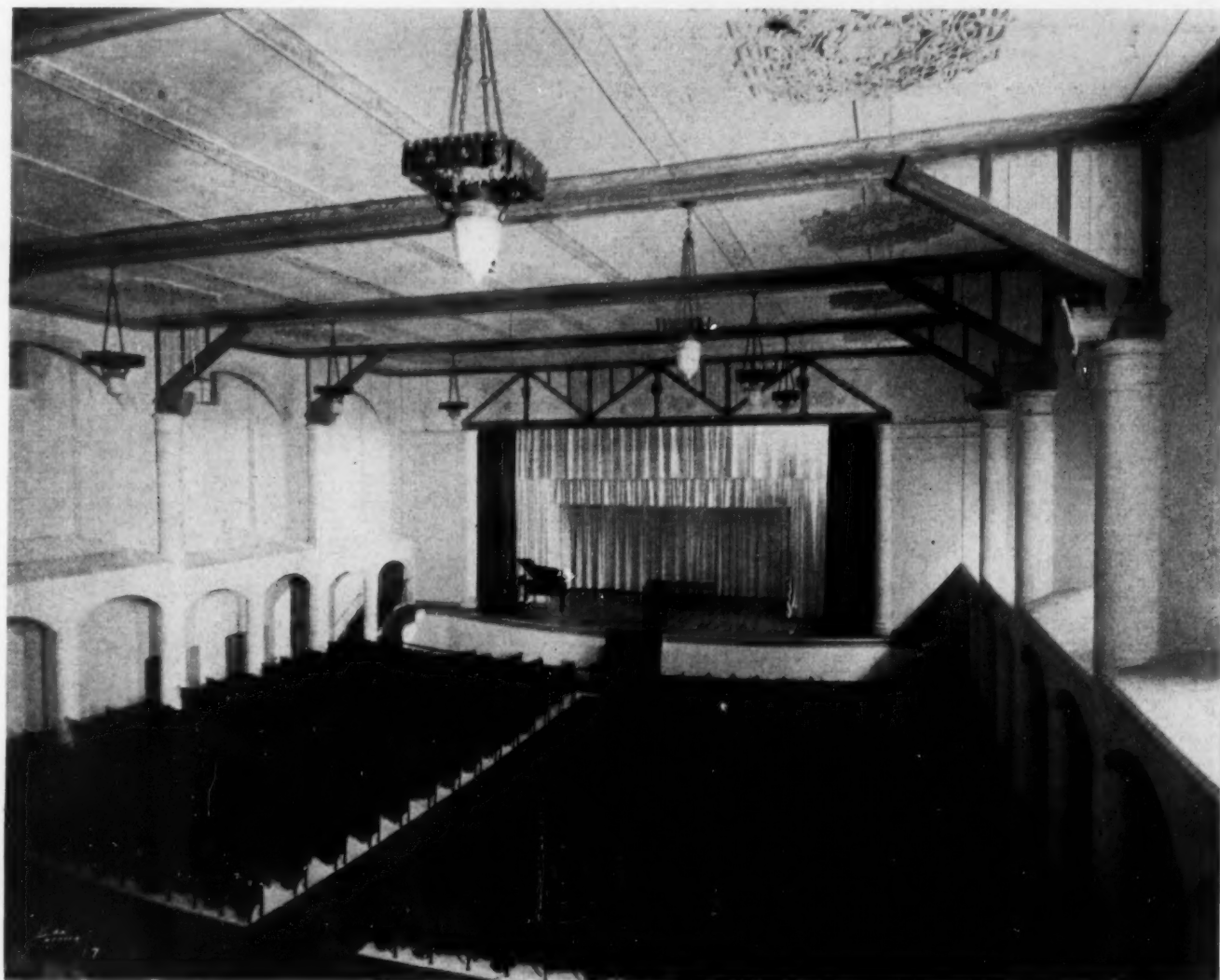
the progress made in the placement of windows has come a further significant change. This concerns both the manner of hanging window shades and the material of which shades are made. Shades are no longer fastened at the top of the window casing and pulled down, shutting off the best light for those in the inner portion of the room, but are either hung in the center of the casing in double rolls, one for the upper part of the window and the other for the lower part, or the shade is adjustable so that the roller slides up or down according to the needs of the room. The material of which the modern shades are made is more translucent, permitting much more light in the room, than the old type of dark green shade so familiar in school buildings a few years ago. These changes in lighting and shading have certainly proved of great benefit to the welfare of pupils.

The third important influence that has led to considerable change in the interior arrangement of classrooms is the recent progress in the development of the educational program as witnessed by

the many new curriculum revision activities now going on and the formulation of new methods of teaching. Educators are also taking a much more important part in planning and equipping school buildings to the end that we are securing much better adjustments between the physical plant and the school program. The old method of planning classrooms was mainly architectural. A classroom consisted of four walls lined with blackboards, a floor, windows on two sides, a door, a wardrobe, fixed pupils' desks, a teacher's table and chair. There seemed to be little or no effort to arrange or furnish the classroom to suit the program except that the room was supposed to provide for work at desk and blackboard.

Equipment Assists Teaching

To-day we find the regular classroom supplied with all sorts of devices that assist in the teaching program. In the first place, pupils' desks are no longer fastened to the floor but are movable in order that the activities of the classroom may



Auditorium, Lake Junior High School, Denver.



Above, library at the Fairmount Elementary School, and below, biology laboratory, West High School, both of Denver.



not be hampered by the rigidity of fixed desks and so that any type of organization or arrangement necessary to carry out the classroom activities may be made by pupils and teachers. There has been a significant reduction in the amount of blackboard space and the addition of space for posting materials. Scientific studies of the use of blackboards have found this possible. The modern classroom is equipped with bulletin boards made of quarter-inch cork composition to which posters, and interesting materials dealing with the activities of the room may be posted by means of thumb tacks.

Providing Display Space

In the Denver schools the regular classroom is provided with about twelve feet of this type of display space. In the old type of room no provision was made to take care of books. In the modern building no classroom is built without its own bookcase, which is either built into the inside wall or placed as an integral part of the room at some other convenient location. The case should be deep enough so that it can take care not only of books but of other instructional materials. Educators are even insisting that maps to be displayed before the entire class be made large enough to be visible and readable in all parts of the room. This means larger maps, properly hung.

What has taken place in the regular classroom has taken place in all types of rooms, laboratories, shops, and other special rooms whether in elementary school or in high school. Most modern laboratories and shops are provided with work benches under the window stools for the entire length of the room. The lower part of these benches is equipped with shelves and drawers for the storage of teaching and working materials. Cabinets are built into the inside walls or placed in convenient locations. Storerooms are handily situated. It seems to me, however, that recently the tendency has been to place as much storage space in the laboratory itself as possible where materials can be brought into use without waste of time and effort. In other words, the activities of the different rooms are coming now to govern more and more what the rooms and furnishings are to be. Economy of space and time, adequate storage of needed teaching materials, where supplies used by teachers and pupils are available at close hand, seem to be the guiding principles. In the modern city where the superintendent of schools and his staff play an important part in the planning of school buildings, there has, therefore, been tremendous progress in adjusting size of rooms, built-in facilities, and equipment to the needs of the activities to be carried on therein.

There is at least one school facility, the library, in which I believe the development of the educational program has resulted quite definitely in larger units rather than smaller. Progress in the development of school libraries has been almost phenomenal during the past decade not only in junior and senior high schools but in elementary schools as well. In the past the library was little else than a place for the storage of books. To-day it is a commodious room that accommodates both a generous allowance of books and large groups of readers. In my observation of school libraries I have come to the conclusion that, as we learn to make better use of them, none built so far will be large enough to supply the demand for space. The solution I believe will in some cases be larger rooms, but in many cases additional rooms. The modern school library is usually lined with shelving filled with books. It is equipped with a librarian's work room, storeroom, and conference rooms, where groups of pupils may work together on special assignments. I know of no more inspiring sight than a well-equipped library occupied by students engaged in the modern activities of this room.

The New Principle of Flexibility

Recently educators have quite universally come to recognize that the educational program is a changing one and for this reason it is impossible to foretell what the future classroom may become. This has brought about the application of a relatively new principle to the construction of school buildings, namely, flexibility, which permits almost any change to be made in the interior arrangement of school buildings to fit the needs. This affects immediately classroom arrangements to a certain extent. Partitions between classrooms in the up-to-date building are not bearing partitions; in other words, they do not help to support the structure of the building, which is carried on the corridor and exterior walls and not in partition walls as was commonly done in the older buildings. Nor are partitions between classrooms any longer used for ducts, flues, or vents. In the modern school these are placed in the corridor partitions. There is a still more recent tendency with certain systems of heating and ventilating to eliminate all ducts even in corridor walls. The reason for the change in the character of the partitions between classrooms is the uncertainty of future educational requirements, and the growing conviction that larger classes are not only possible but probable. The partition between classrooms is now built so that it can be removed at any time and the size of classrooms changed to suit any future programs that may develop.

The more active part taken by educators in the planning of schoolroom interiors and the urge for greater economy in the use of buildings have combined to bring about within the past three or four years a significant change in the idea of the use of special rooms. In the past a laboratory or shop could be used for only the activity for which it was planned and equipped. Considerable progress has already been made in the planning and equipping of laboratories and shops so that a multiplicity of activities can be carried on in them. The modern, up-to-date superintendent of schools will not permit a physics laboratory to be furnished with such equipment that another class activity cannot be conducted in the laboratory.

Facility of Multiple Use

In recently equipped Denver high schools I think I am safe in saying that an English class would be practically as well taken care of in an art room, in a food or clothing laboratory, and in a biology or physics laboratory as in the regular classroom. In other words, the pupils' tables and chairs used in all of these laboratories are adapted primarily to the laboratory activities but can also be used without handicap by pupils reciting or working in English, social science, or mathematics. They are the proper size and height. The biology table, for instance, is twenty inches wide, eight feet long, and thirty inches high, and accommodates three pupils. English classes can work at this table just as effectively as biology classes.

It seems to me that this movement toward the multiple use of all school facilities is of special significance to the smaller junior and senior high schools, where there are not enough pupils to use a special room all periods of the day, but where the regular classrooms cannot accommodate all the required classes. Packer in his study of the problem of Housing High-School Programs draws this significant conclusion, "Specially equipped rooms that preclude other than one purpose use result in tremendous waste even in large schools. In the schools with small enrollments it would be practically impossible to justify the loss due to this factor. Every effort should be made to reduce this loss by planning for the largest maximum combination of use possible."

There seems to be evidence to the effect that efforts are being made to plan special rooms for more than one use. The application of this principle makes possible better high-school schedules and programs and eliminates tremendous waste by means of permitting a fuller use of all the facilities provided in the building.

In addition to the progress made in the interior arrangements of classrooms from economic,

health, and educational standpoints, there has also been progress in beautifying interiors. I have especially noted the concentration of beauty spots in modern buildings in two or more places. In the kindergarten the child makes his first break from home and is inducted into school life. It is felt by many communities that this room should be attractive to the child and present to him an atmosphere of harmony and inspiration. In Denver we have tried to achieve this by including fireplaces, bay windows, mural decorations, friezes, and the like in our kindergarten rooms. The library, in which reading and browsing habits are established, should present a quiet, dignified, but cheerful and beautiful aspect. Quiet floors are secured by the use of rubber or linoleum tile, linoleum and cork carpet, which may be laid in attractive designs. Built-in-the-wall bookcases with the many colored books always present a pleasing appearance. A further touch of art may be added in attractively designed ceilings. The third beauty spot is the auditorium. This room presents especially excellent advantages for architectural treatment, which is seldom overlooked in the more recent structures. I think it goes almost without saying that these so-called places of beauty in the modern school building assist materially in the development of appreciation of art and architecture, and add considerably to the fuller enjoyment of life both during and after the school age.

The Modern Classroom

If I were to summarize briefly what I have tried to say concerning the interior arrangement of classrooms, I can do it best by describing the modern classroom in comparative terms. The modern classroom is more compact; it is better lighted; it is furnished with equipment, whether built-in or free standing, better designed to fit the needs of pupils and their activities; it is better adapted to a changing school program; it is furnished to permit a fuller use of the building; and it is more beautiful than its predecessor of fifteen years ago. Schools today are better educational buildings, and classrooms better laboratories of teaching, learning, and life.

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Guiding Food Selection in Well Equipped Cafeterias

To solve the problems of school meals, correct dietary habits must be cultivated, proper layout of equipment stressed, and accurate data on all operating costs secured

BY CONSTANCE C. HART, SUPERVISOR OF LUNCHROOMS, BOARD OF EDUCATION, CLEVELAND

A SCHOOL cafeteria is not merely a big business organization, but it is an educational organization as well, which has an exceptional opportunity in helping to develop discrimination in the selection of foods on the part of the students. There are many methods by which this may be accomplished. A contest may be conducted between sections or between the girls and boys to determine which will have the greater number of well-balanced trays, or which will eat more vegetables and milk daily over a period of time. The winner is awarded a certain amount of food free in the cafeteria, or is served a special chicken dinner; while the loser on the same day has to eat a common fare of beef stew.

The most satisfactory plan is to reduce prices of certain foods or combinations of foods that the

dietitian is desirous that the student should introduce into his diet. It is a very difficult process, however, to try to change the food standards of children in an average American city, made up of many nationalities, each with its own food tradition. Last year we tried some very interesting experiments to see what we could do to help children select foods more wisely. We decided that there were certain foods being served in the lunchrooms that were not having a large enough sale, such as: Milk, whole cereal breads, and cooked and raw fruits and vegetables. We ran specials each week at a much reduced rate. Typical specials were as follows:

Fresh vegetables or fruit salad with two slices of whole wheat bread and butter—\$0.08, which would have sold regularly for \$0.12.

Meat substitute, salad, and two slices of whole wheat bread and butter—\$0.12, which would have sold regularly for \$0.18.

Cream soup or a half pint of milk, a salad, and sandwich plate—\$0.10, which would have sold regularly for \$0.20.

Two fresh vegetables, potatoes, a slice of bacon, two slices of whole wheat bread and butter—\$0.13, which would have sold regularly for \$0.23.

In a number of schools we found children were inclined to buy an excess of starchy foods. It was not an uncommon thing to see boys going through the line with two scoops of mashed potatoes, from twelve to fifteen slices of bread, and perhaps a half pint of milk. We decided that we would put a spoonful of well-cooked and well-seasoned vegetables gratis on the side of each order of potatoes to see if we could get the children to acquire a desire for vegetables and introduce them into their daily diet, both at home and at school.

The same thing was done in regard to salads; one school was serving three hundred salads a day, and after the price was reduced, the salad servings increased to nine hundred fifty. When the prices went back to normal, the business had increased to six hundred salads a day. The price

of milk and fruit was reduced to cost, and vegetables were sold as near cost as it was possible to estimate. All sandwiches were made with a lettuce leaf between one slice of whole cereal bread and one slice of white bread. An accurate food report kept to ascertain the gain in these items over the previous year showed the following figures:

Food	1925-26	1926-27	Increase
Milk—pints	57,713	119,580	61,867
Milk— $\frac{1}{2}$ pints	1,508,206	2,061,056	552,850
Whole cereal bread—loaves..	16,511	49,120	32,609
Whole cereal rolls—dozens..	8,867	21,314	12,447
Fresh fruits—pounds	96,897	147,923	51,096
Fresh vegetables—pounds ..	618,012	802,947	184,935
Canned fruits—gallons	2,515	3,398	883
Canned vegetables—gallons .	3,029	5,833	2,804

Our managers, who are graduate dietitians, check the trays of the children as they go through the lines, and make suggestions as to how their lunches might be improved by selecting foods that give a better balanced diet.

All food used in the lunchrooms is purchased on a competitive bid basis, definite specifications having been sent to each bidding firm. The dietitian and the central office check to see that these specifications are adhered to. By buying in quantities large enough to feed our thirty-seven thou-



A faculty tea room where 120 teachers are served daily.



Serving counters that are adapted to small space and yet have sufficient display room.

sand noon patrons, we are able to obtain much lower prices than if each school did its own buying.

Selling prices set by the central office are uniform throughout the entire system. Great difficulty arises as to how we are to know that every child in the system that buys a five-cent bowl of cream of tomato soup, or a four-cent dish of creamed peas, is getting the same quantity and quality of food. With this problem in view, we have set up standard recipes, and have standardized our equipment. To do this committees of dietitians were formed and recipes were chosen that had proved popular in different schools. Standardized portions were set, and each recipe was worked out so that a manager would know just how many servings it contained, the size of the serving, the total cost of each serving, and the total cost of the recipe. It was a rather difficult proposition, and not altogether satisfactory, because all of these recipes had to be tested by thirty people with different food standards.

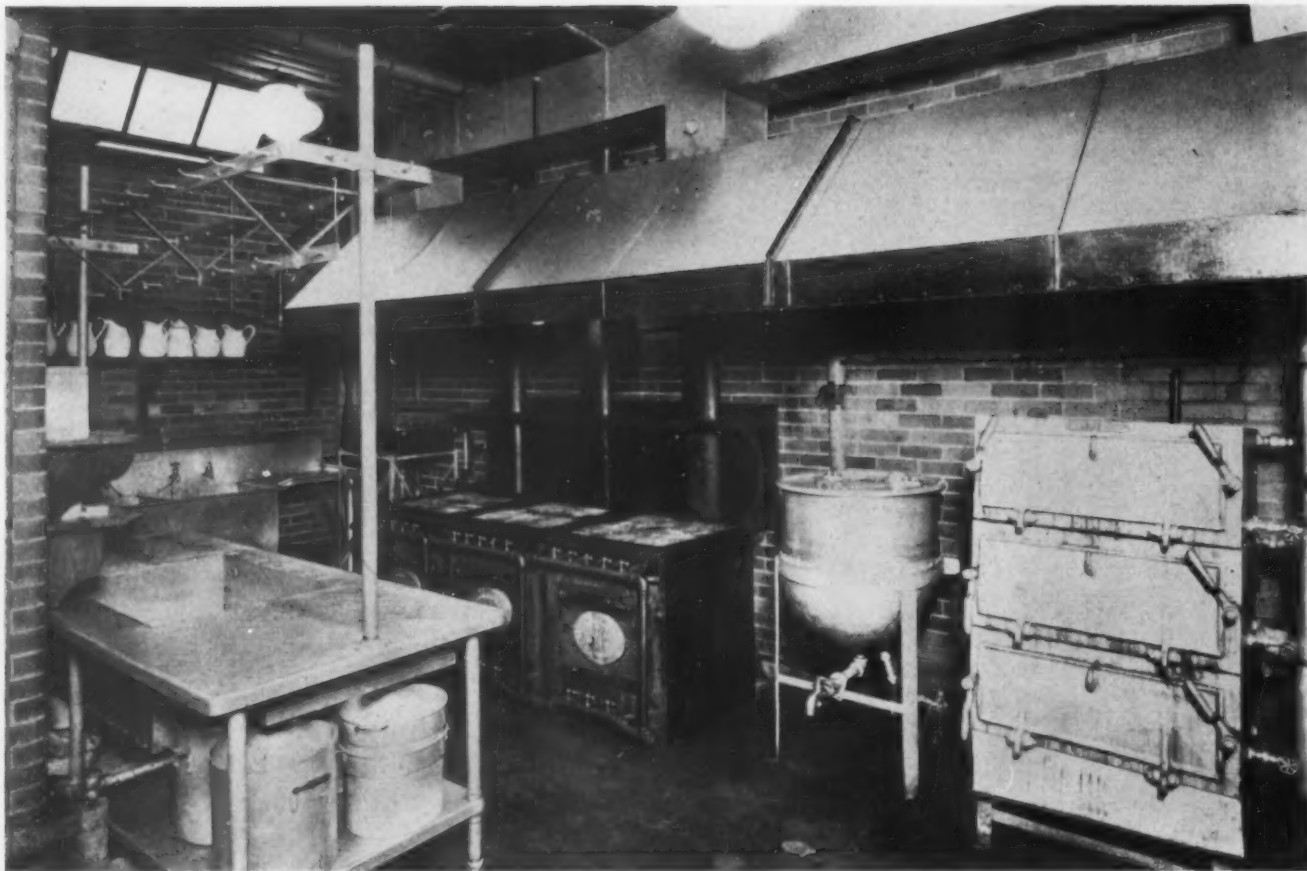
However, a start has been made towards standardization, and we dream that some day we will have an experimental laboratory, in which all of this testing will be done. This is not a new idea, but is very much the plan of the more progressive chain restaurants, and is the only way to assure

accurate standards, when one is serving food at many different places. In very much the same way we have standardized our small equipment, (cooking utensils, serving spoons, plates, glasses, silver, etc.)

In the great majority of schools in Cleveland the children are allowed to leave the building during the noon hour if they so desire. We have found that we serve about seventy-seven per cent of the senior high-school pupils, and fifty-five per cent of those in the junior high schools. Therefore, when we are opening a new building, we can tell quite accurately what per cent of the enrollment we will serve in the cafeteria. This is a great help in planning what large equipment should be purchased.

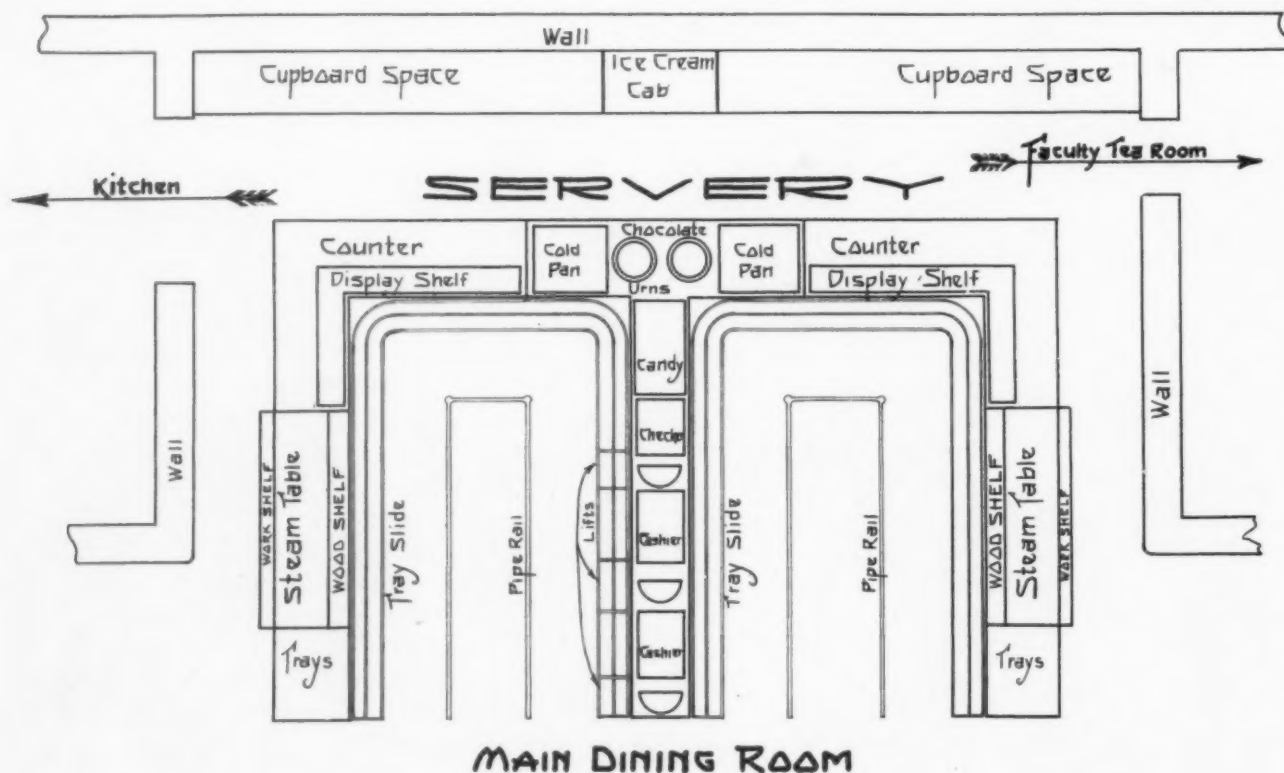
A study of standard large equipment for lunchrooms of various sizes has been made. As new schools are built, these are being tried out and such improvements are made as are found desirable.

The greatest care must be taken to plan a lunchroom kitchen in order that it will be neither too large nor too small. A great deal of thought must be given to the proper arrangement of the various pieces of equipment, in order to speed the preparation of food and save as many steps and heavy lifting on the part of the employees as



Layout of kitchen equipment for serving the lunchrooms.

possible. The equipment must be so arranged that one process follows another. Take for instance the preparation of potatoes; the bin must be placed so that it stands as near as possible to where the potatoes are delivered; it must also be in proximity to the peeler, and the peeler in turn must be near the vegetable sink; the vegetable sink near the steamer, the steamer near the mixer.



The same is true of the cook's section; the broiler, the range, the soup kettle, the vegetable steamer, the cook's table, the bain marie, and the pot sink, must be in such proximity that this high-priced employee does not waste any of her time or energy in needless steps or heavy lifting. Another place where one often fails to consider the significance of placement is the relationship between the bain marie and the range and steam counter. As the steam counters in the schools must be replenished often, much time may be saved if the prepared food is as near as possible to the place where it is to be sold.

Proper Layout Saves Labor

A great deal of labor may be saved also by the proper placement of the dishwashing room. This section should be as near as possible to the place where the majority of the students leave the dining room, and at the same time near enough to the counter to save as much trucking of dishes as possible. We have found that the dishwashing process is very much retarded by washing the trays in the dishwashing machine. Therefore, all our dishwashing rooms are now being equipped with a double sink, in order that each tray may be washed with soap, and rinsed and dried after the patron has used it. We are also making provisions for washing glassware. Of course some lunchrooms put the glassware through the dishwasher, but we have found that the glass does not keep its bright and shining appearance if this method is used.

The psychology of selling must be considered by the school cafeteria as much as by any commercial cafeteria. The child comes with a definite amount of money to spend. If we would put attractive desserts and candies first on our counters, the greater number of his pennies would go for this kind of food. Therefore we place our steam counters first, our whole cereal bread, fruits, salads and milk next, and last of all the desserts.

Only milk chocolates, nut milk chocolates, raisins, and salted nuts are sold in our schools; and in a great many of them we do not sell candy until the children have bought their lunches. The candy section has a compartment with shelves underneath, and a door with a lock and key, where extra boxes of candy may be stored. This saves many steps, and is a great help in keeping the counter filled at all times while it is in use. The salad section of the counter has an insulated cupboard below it, which is equipped with shelves and tightly fitting doors, in which extra salads may be kept. In a few schools we are able to have an extra ice chest directly in back of the salad counter for still more salads.

Student organizations co-operate with the manager in seeing that the lunchrooms are kept in order. A number of the schools have appointed hosts or hostesses at each table. It is their duty to see that no papers are thrown on the floor, and that the tables and the general appearance of the room are in good condition at all times. All tables are washed once daily and are dusted by an employee just before lunch.

Various methods are used in serving the faculty. We have found that the faculty takes longer to make its selections of foods than the student body. This holds up the lines. Therefore we have faculty counters, and in some schools small tea rooms. The service in these tea rooms varies. In some schools the home economics classes take this as a special problem. In others, students are paid for serving in their free periods, and in still others we have women employed. The prices in these lunchrooms are the same as in the regular student lunchrooms, except that there is a three-cent cover charge made on each tray.

Lunchroom Is Self-Supporting

The lunchroom department is self-supporting, except that all of the original equipment and the replacement of large equipment is purchased and repaired by the board of education. All food supplies, utensils, office supplies, silver, et cetera, are paid for from lunchroom funds. The lunchroom department also pays the salaries of all full-time managers and the part-time salaries of the home economics teachers, who manage lunchrooms in schools that are too small to maintain a full-time manager. The salary of the supervisor as well as of the office force and the workers employed, is met by the lunchroom receipts.

A monthly statement of the financial standing of each school is prepared at the central office, and a copy is sent to the dietitian in charge of each school, so that she may compare the distribution of her fund with the standard percentages set up by the central office. The percentages are based on sales, and are sub-divided as follows: Food, payroll, replacement, cleaning supplies, manager's payroll, and administrative expense. Whenever lunchrooms make more money than a certain amount that is allowed for a surplus fund, prices are automatically cut.

The lunchrooms are run on a business basis, but the object is not to make money, but rather to have neither a surplus nor a deficit; and to make available to the children warm lunches of the maximum nutritive value, carefully prepared under sanitary conditions at a minimum cost per service; and to develop on the part of the pupil intelligent discrimination in eating.



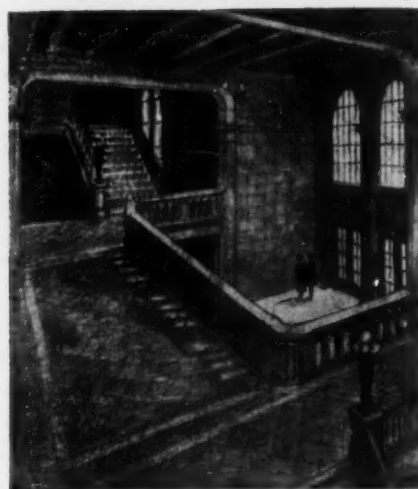
Baking and Cooking are no longer taught only to girls in the nation's schools. Here are school boys who are mastering the fine points of the culinary arts under the direction of competent instructors.



Building Schools

With a View to the Future

By JOSEPH C. LLEWELLYN, ARCHITECT, CHICAGO

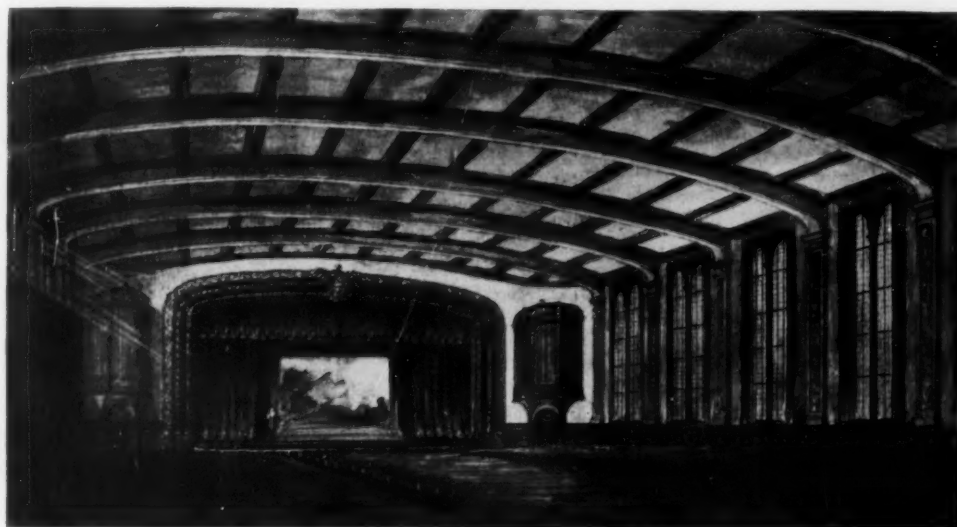


HOUSING a high school in a group of buildings erected at different times and in different styles is a problem frequently arising in planning schools in growing districts where it is necessary to conserve the old work and incorporate it with another and larger scheme. Earlier work was, and a considerable portion of present day work is, planned and erected to accommodate a certain number of pupils without provision for enlargement in case of future need except at the cost of scrapping a considerable portion of the building and its mechanical equipment. It is possible in a new building, by careful planning, to make provision for future growth both in room and mechanical equipment without adding materially to the cost of the building, in such way as to avoid tearing down any part of the building when additions are needed. It is true that some districts will grow much faster than others, and that the estimate of growth may be found below requirements in many instances and larger additions may be required. Still the principle holds good that planning any building so enlargements can be made is worth while, and

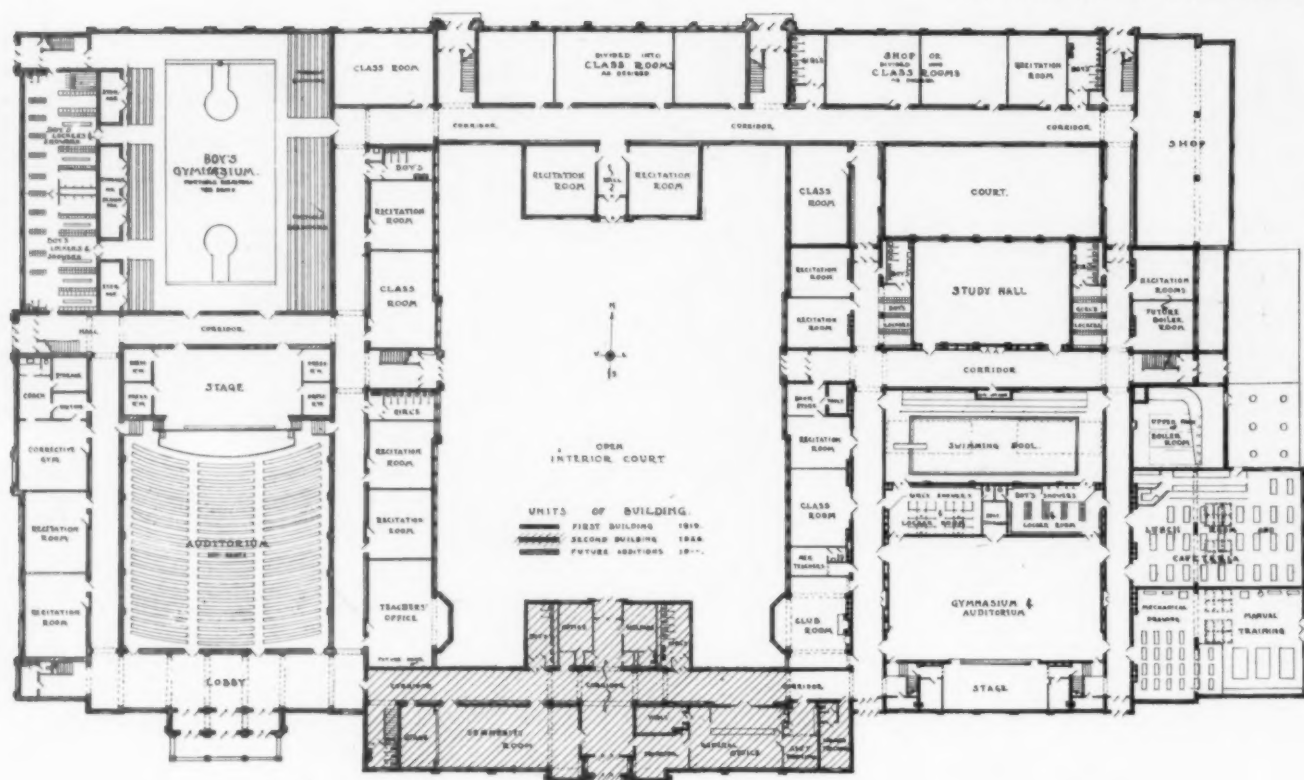
makes possible the use of the original building for indefinite periods of time without material loss in investment.

The Lyons Township High School, one of the earliest township high schools in Illinois, was organized in 1888 and the first building erected in 1889. In 1899 a second building, connected to the first by connecting corridor, was erected. Between 1899 and 1917 the growth was steady but not rapid and during this period building enlargements were confined to enlarging the gymnasium and the study hall and library above it, and later by adding somewhat to locker and shower room facilities. In 1917, however, more room became a necessity and the architects of the present extension undertook a study for a more comprehensive development—one that would use the then existing buildings and provide for extensions that could be erected at intervals and increase the capacity of the group (without loss of investment or material interference with the use of the existing buildings) from 488, the 1917 enrollment, to 1,200 pupils.

A prospectus was prepared and a bond issue



Architect's sketch of the auditorium of the Lyons Township High School, La Grange, Illinois.



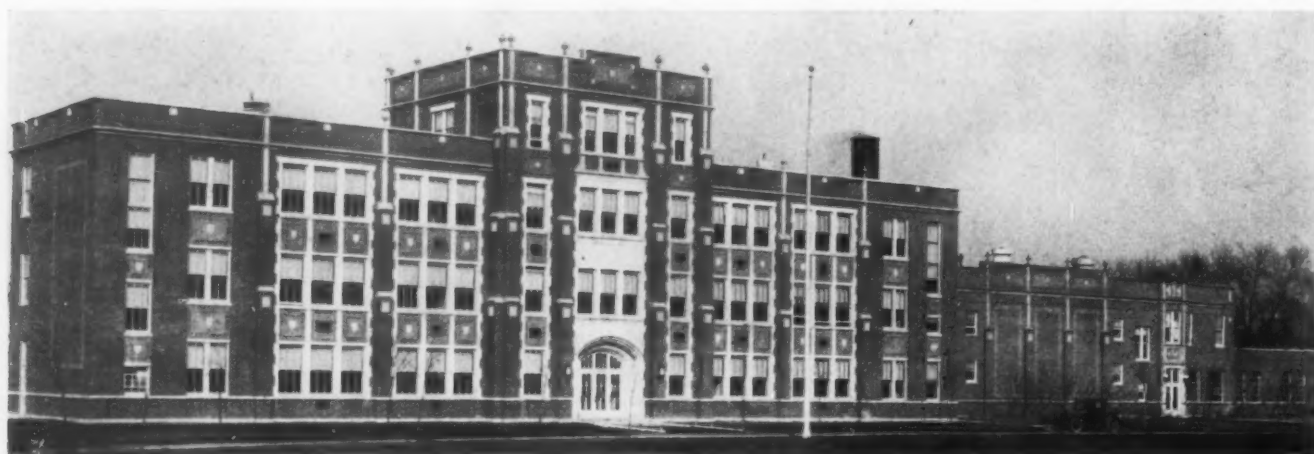
First floor plan, York Community High School.

asked to build a portion of the larger plan. At this time, however, the country was busy with the World War, the project was defeated, and for the next four years little building, except for war purpose, was done. In 1921, however, the question was taken up again, the unit proposed in 1917 restudied, and the unit erected in 1922. In the first attempt, bonds had been asked for; in the second instance, the building was financed by direct taxes and, as a means of recouping financing capacity, the plan was adopted of finishing only those rooms actually needed at the time, and the walls, partitions, corridors, etc., finished for several additional rooms that were to be finished in

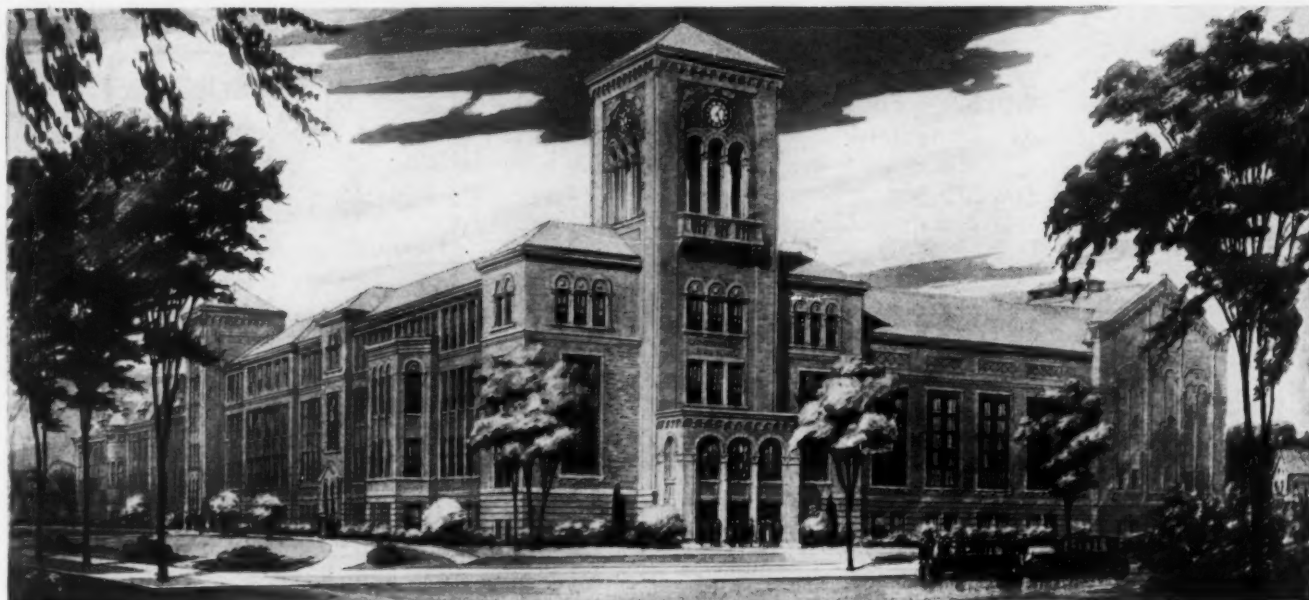
succeeding years, as needed, from current funds.

By 1926 all this indebtedness had been paid and as the district was growing rapidly, studies were taken up on another extension to the plant.

By this time it was very apparent that the estimates as to growth of the district were much too small; although the district had been divided the pupil enrollment had grown from 488 in 1917 to about 1,000 in 1925-26. Hence the studies, while adhering to the general scheme provided for in the original enlarged plan, contemplated a larger gymnasium, a larger auditorium, many classrooms, and special features. In this instance, financing is by bond and direct taxes, and the



A view of the administration section, York Community High School, Elmhurst, Illinois.



Sketch of new addition of Lyons Township High School.

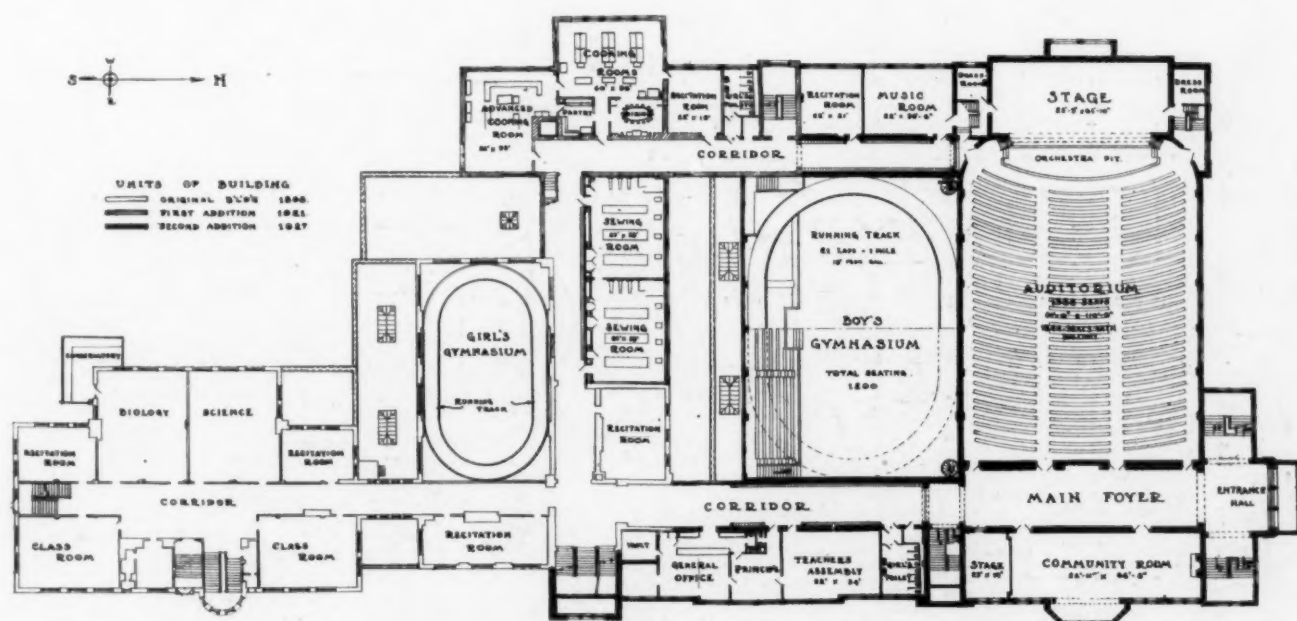
policy of providing the shell for several unfinished classrooms, which worked out so well in the first units, was adopted. In the present addition some seventeen rooms will remain unfinished until needed. There is still room for another unit in the scheme that, with the present capacity, will give accommodation to 2,500 or more pupils—double the number thought necessary ten years ago.

The above is cited to call attention to the need of careful planning and broad vision with a view to future needs in school buildings. Rapid growth is not unusual in a community near large centers of population. Smaller communities further re-

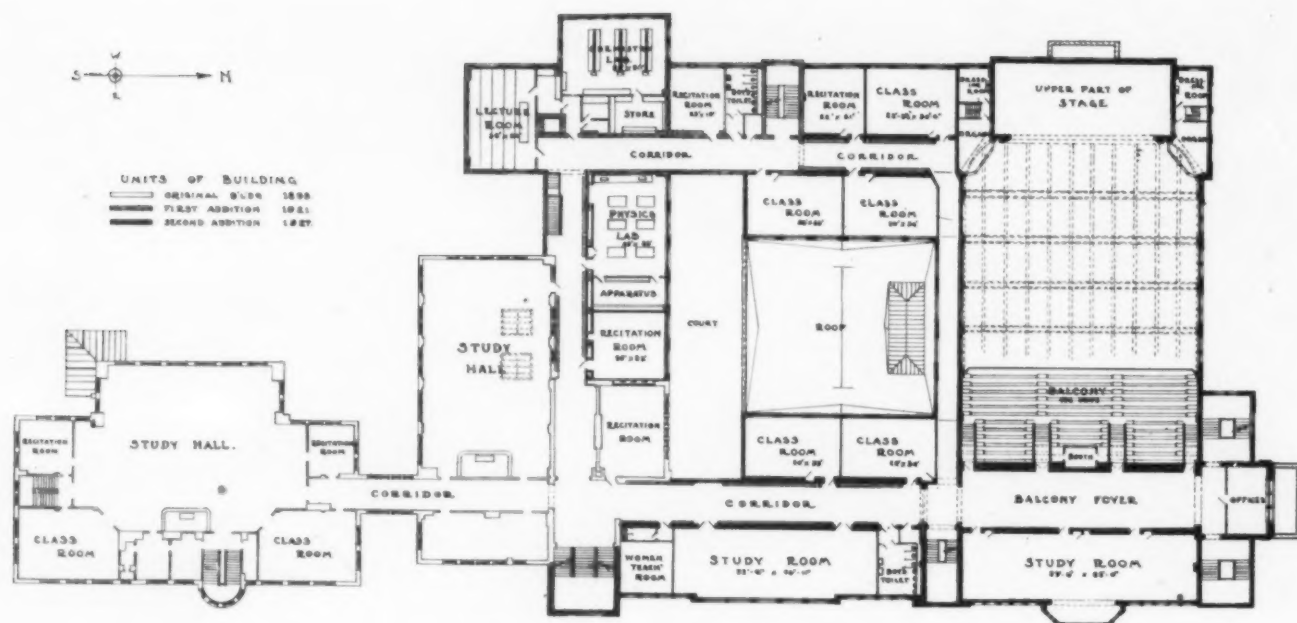
moved from the bigger cities may not develop so fast. But even in the smaller cities and towns we have seen many instances where attention to this feature has made possible increased facilities at a reasonable cost and without inconvenience to the schools.

The building under construction at the present time, with rooms all finished, will easily care for 1,000 additional pupils and permit of assigning several undesirable rooms now used for classroom work in the present buildings to other uses. The buildings will house a total of over 2,000 pupils—the present enrollment being 1,100.

The remaining section, contemplated under the



First floor plan, Lyons Township High School.



Second floor plan, Lyons Township High School.

original enlarged scheme of ten years ago, will easily bring the capacity of the school to more than 2,500 pupils.

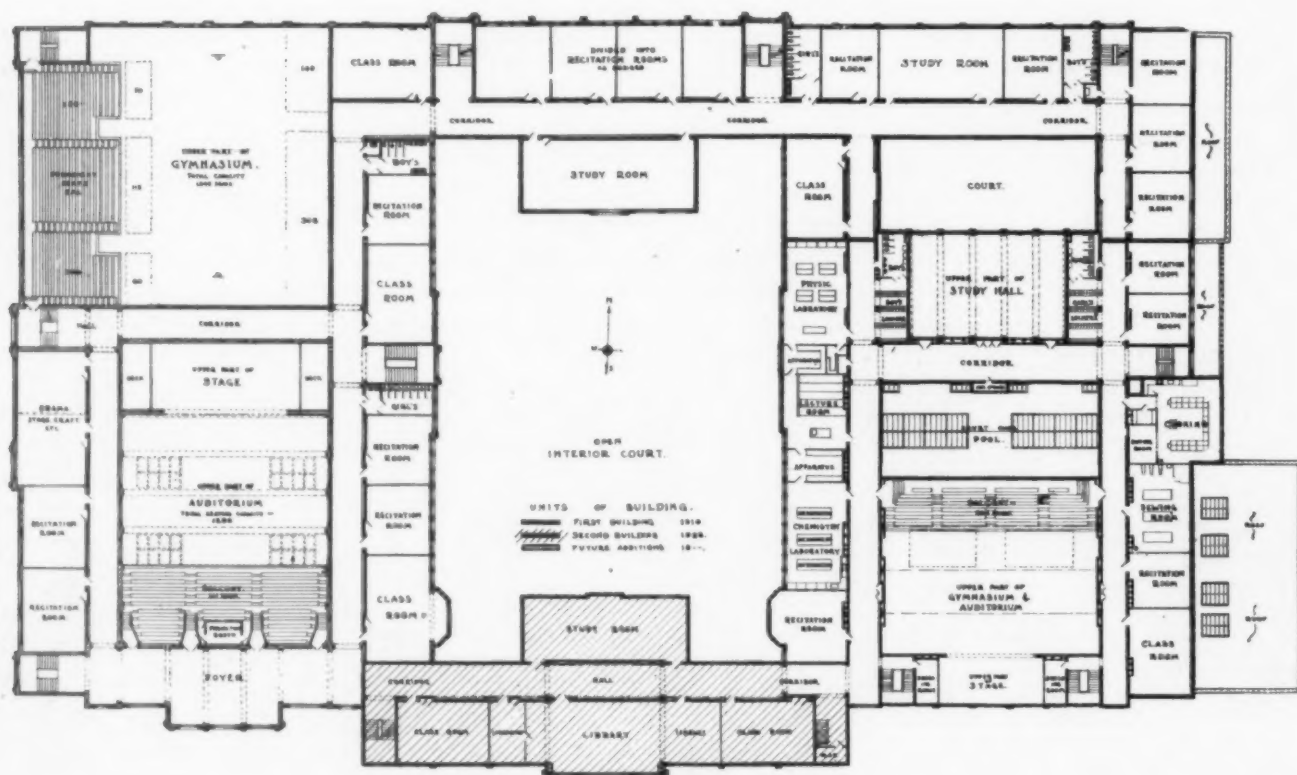
The building is of fireproof construction in all structural parts and contains the following rooms:

An auditorium to seat 1,840 with well-equipped stage, sixty by twenty-five feet, and ample dress-

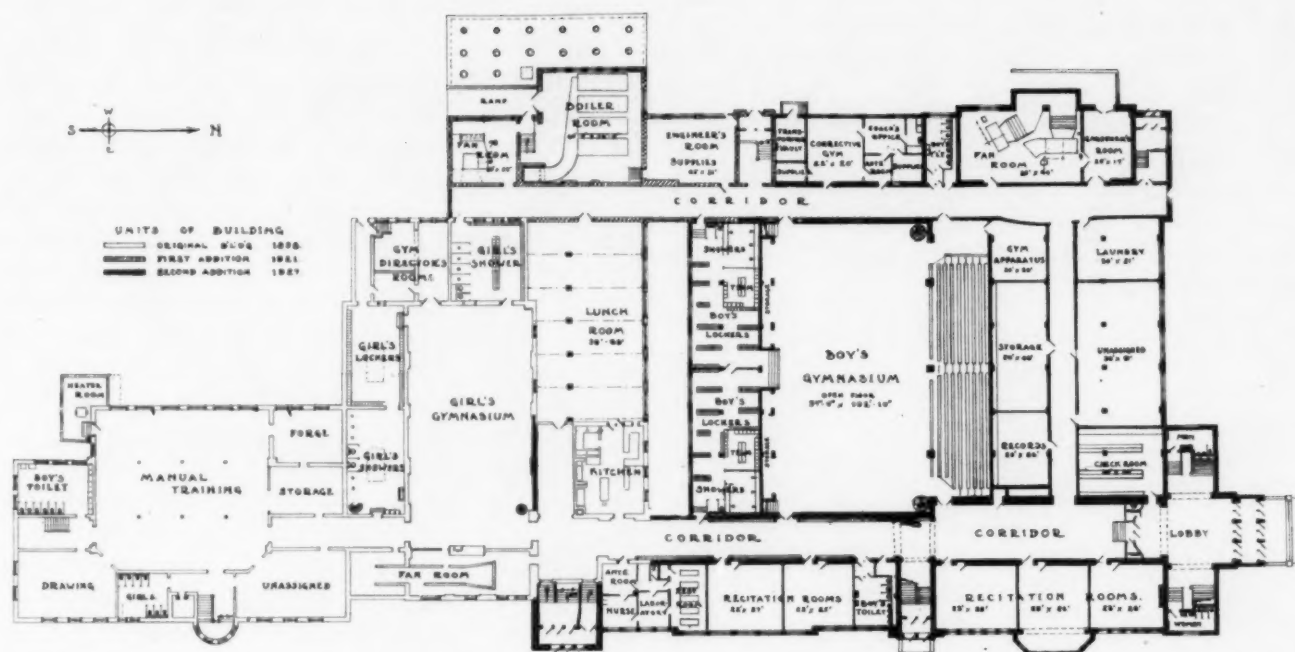
ing room facilities. Space for a pipe organ.

A community or social room, twenty-three by eighty-two feet, with stage. This room will seat 175. Used for classroom work, societies, lectures, etc.

A gymnasium for boys, floor 56x104 feet, permanent seats for 900 and bleacher accommodation for 200 to 300 more, with two locker and shower



Second floor plan, York Community High School.



rooms to accommodate 500 pupils each. Running track—twenty laps to the mile.

Coaches' suite for boys—four rooms; offices, storeroom, and corrective gymnastics.

Welfare director for girls—four rooms; offices, laboratory, and rest room comfortably furnished.

New administration offices—three rooms and vault, and teachers assembly—also used for classroom work.

Band room, twenty-three by fifty-two feet, located to minimize the interference with other activities of the school that might be disturbed.



Boys' gymnasium, Lyons Township High School.

Two study rooms—150 pupils each, and twenty-eight classrooms and recitation rooms.

A tower clock and Westminster Chimes will be installed.

Equipment includes heating and mechanical ventilation, complete electrical equipment for lighting stage and building, provision for clocks, telephones, and radio—the conduits being installed to permit loud speakers in each classroom when wanted.

York Community High School

The York Community High School, Elmhurst, Illinois, is also planned so it can be enlarged by successive steps and built up to a capacity of 2,500 pupils.

The original building, built in 1919, was planned for extensions, but as in the case of the Lyons Township High School, the growth of the district has exceeded expectations and upon building the second unit a more comprehensive plan was prepared by the architect, which could be erected in successive steps. The plans shown may be changed in arrangement and disposition of rooms somewhat when the time comes to build but the general scheme can be followed as in the Lyons Township building.

The future addition to the building will house a larger gymnasium to be used by the boys, an auditorium accommodating a total of 1,286 persons on the main floor and balcony, shower rooms adjacent to the gymnasium, and rooms that may be used as shops or divided into classrooms as indicated.

This school has an ample site, a fine athletic field and tennis courts, and ample ground for landscaping and detached service yard.

The building will contain, when fully complete, about the same accommodation as the Lyons Township school but is a building for the most part but two stories high, arranged around a large open court. This arrangement permits of good circulation, and ample exits and stairways will aid in reducing corridor and stair travel to a minimum.

Questions of site and surroundings have much to do with the development of a comprehensive scheme. Old buildings to be included in any scheme are sometimes a troublesome factor because of location on the site, story heights, size and disposition of rooms, and location of corridors. But with study these difficulties often iron out in a way to make the saving of the old building worth while. The problem is not only to prevent the old from dominating the scheme but to make it fall into it as a subordinate and inconspicuous though useful part.

School Enrollments

For the school year ending June 30, 1924, a total of 2,124 private high schools and academies sent statistical reports to the Bureau of Education. This represents an increase of 161 schools over the number of 1922, thirty-one over 1920, and a loss of 124 since 1915. The average size of school increased from ninety-six in 1922 to 102 in 1924. The largest increase in enrollment is reported by the state of New York, where 5,065 more pupils are reported than in 1922. Ohio, Illinois, and Massachusetts follow with increases of between 2,000 and 3,000 pupils each, and the District of Columbia, Virginia, California, and New Jersey report increases of more than 1,000 each over enrollments in 1922. Eleven more states report increases of more than 500 each in enrollment for this two-year period. These gains are confined chiefly to the eastern and southeastern portions of the United States. The total enrollment for 1924 is 216,522, an increase of 29,881 over that reported for 1922, according to *Bulletin No. 23*, Bureau of Education, Washington, D. C.

General Increases

While the enrollment was increasing sixteen per cent over that for 1922, the number of graduates increased twenty-seven per cent, the number of fourth-year pupils twenty-nine per cent, and the number above fourth year fifty-one per cent. The number of boys enrolled increased nineteen per cent, and the number of girls thirteen per cent. In the four-year schools, the rates of increase are a little higher than for all schools. In schools for boys only the increase in enrollment is eighteen per cent, and in those for girls only it is eight per cent.

The increase in number of teachers in 1924 over that of 1922 has not kept pace with the increase in the number of students. The rate of increase for teachers is 10.3 per cent. For men teachers it is 13.7 per cent and for women teachers 8.2 per cent. The number of students per teacher, 13.8, is an increase of approximately one since 1922. The value of buildings and grounds is reported as 27.3 per cent higher than in 1922, and of furniture and scientific apparatus as fifteen per cent higher. The increase in endowment reported for the two-year period is 21.9 per cent, or a little more than \$11,000,000.

The number of pupils in schools for the negro race increased 16.7 per cent from 1922 to 1924. The number of pupils per teacher in these schools was 15.6 in 1924, which was approximately two more than the number for each teacher in schools for white pupils.

Shall We Keep the Doors Wide Open?

Colleges and Universities are becoming overcrowded with students, many of whom are not well adapted to collegiate work

BY M. V. O'SHEA, PROFESSOR OF EDUCATION, UNIVERSITY OF WISCONSIN

UNDOUBTEDLY some of those who are reading these lines can remember when the educational door was not open at all. Every pupil paid for his schooling. Only a small proportion of children who entered the primary school survived into the secondary school. The present writer completed his college preparatory course in an academy in which there was enrolled not more than one-twelfth of the pupils who had completed the highest grade of the grammar school. The fee for entering and remaining in this academy was prohibitive for many of the children in the community. Elementary school pupils generally did not expect to go on into the academy because it would not be possible for them to continue their education into college; and the purpose of the secondary school was to prepare young people for college work. The boy who did not aspire to one of the professions never thought of spending the time and the considerable sum of money that would be required to complete a secondary school course. And what was true in the community referred to was then generally true throughout the country. The door leading into the secondary school was closed to all but a fraction of the children in any community. The door leading into college was closed even tighter, and it was only occasionally that a boy could pass through it.

All Doors Are Open

But what a change has taken place, especially during the past two decades! Now all educational doors are wide open. A few years ago it was the unusual thing for a graduate of a grammar school to continue on into a secondary school; now it is the usual and expected thing. A child would have to offer detailed explanation if he should stop off with elementary schooling. There is no fee for high-school education—often not even for the books and laboratory materials used by a pupil. Not only are the doors to the high school swung wide open; the doors to the uni-

versities are closed to no one who has followed the trail through the high school. At the entrance to every state university campus in this country is a cordial invitation for everyone to come in who wishes to add to his store of knowledge, and who has any chance at all of succeeding in his quest.

So far as the writer can learn—and he has taken pains to look into the matter—there has never been anything in the history of education in any country comparable to the development of free secondary, collegiate, and university education in the United States during the past two or, at the most, three decades. One cannot go about this country with his eyes open and not be profoundly impressed with the great structures that are being erected to accommodate the rush of pupils into the high schools and of students into the colleges and universities.

The Rush Toward Higher Education

The building that stands out dominantly in most American communities is the public high school. In some places it requires eight or ten buildings in one plant to accommodate the pupils who are pursuing high-school studies; and as for the universities—their great plants literally cover acres. And every state university is petitioning its legislature for increased appropriations so that it may add several buildings each year. On every hand is heard the lamentation—"we are overrun with students. Our classrooms and laboratories are wholly inadequate to meet the demands made upon them. We need several times the library facilities that we now possess. We must have more space and enlarged equipment in order to take care of the crowds of students who are begging to be permitted to pursue university courses."

The discussions in the Round Table in this number of *THE NATION'S SCHOOLS* are interesting and illuminating. It is not the intention here to repeat any of the arguments made by any of the

contributors to the Round Table; every contributor has made his attitude so clear on the open-door policy that no elucidation or comment is required here. But there are two or three points that have not been touched upon by any of the contributors but that ought to be considered by our readers while we are dealing with this supremely important subject.

One's first response to the question—"Shall all boys and girls who wish to pursue college courses be permitted to do so?" is always strongly in the affirmative. It is typically American to encourage all young people to go as far as they can in their education. We all sympathize with any boy or girl who is ambitious to complete a university course. We applaud anyone who overcomes obstacles and remains in school or in college until he reaches the end of the course. He is regarded as "hard-boiled" who says that too many boys and girls are attempting to complete a traditional college or university course. Our slogan has been and still is, "The More Education The Better."

Is Such Encouragement Wise?

But when one recovers from his emotional reaction and brings his sympathies under control, he is sure to experience some doubt concerning the wisdom of encouraging every boy and girl to complete a traditional college course. He sees all around him young men and women who have spent four years in college and who are left high and dry at graduation. The sympathies of the present writer, and this is undoubtedly true of many readers, have been wrought upon seriously the past three or four years or so by appeals from young men and women, graduates of colleges and universities, who cannot find any suitable employment. They apply for teaching positions; but there are no opportunities. They engage in selling bonds; but there are so many bond salesmen who cannot do anything else that many of them cannot make a living in the business. They want to study medicine; but the medical colleges are overcrowded, and only a fraction of those who apply can be admitted. Some of them have taken a course in law; but the legal profession does not need very many recruits, and every year embryo lawyers have to create legal complications in order to keep from starving. The governor of a state in which the writer conducted an educational survey said frequently, and with intimate knowledge of the situation in his state, that so many young men were being graduated into the legal profession every year that it had become a menace to the peace and stability and social solidarity of the state.

Any reader who doesn't like the direction this

discussion is taking should keep in mind that during the past two decades the attendance in high schools has increased many fold, and there has been a constant and heavy pressure to have graduates of secondary schools continue on into the universities. Again, during the past two decades the enrollments in all state-supported colleges and universities has increased beyond all expectations—has in reality got out of bounds. Society has not been able to keep up with the supply in its demands for college-trained people. Many university graduates are being cast up onto desert islands.

One hears it said frequently, of course, that young people should go to college in order to secure mental discipline and culture, even though they should gain nothing from their college work that would fit them for any definite employment. But when a student emerges from a commencement hall with culture, such as it is, and with a training that fits him only for teaching or selling bonds, and he cannot secure a financial or pedagogical position, he must engage in some manual or at least inferior kind of work, as he thinks, and he becomes an unhappy and discontented individual. His social contacts in colleges have built up barriers about him so that he does not enjoy association with people who have not had college experiences. He returns to his home town without suitable employment, and his culture does not make him an agreeable member of society. Quite the contrary. The writer has been told time and again by college graduates who have not found employment up to their expectations that they have not been able to mingle in intimate friendship with the people in the communities in which they have found themselves stranded.

The Proportion is Increasing Rapidly

No reader will, of course, think that what is said applies to a majority of college and university graduates. No one knows exactly what proportion of graduates last year have not yet found suitable employment and are dissatisfied with their lot. But the point is that the proportion of such individuals has been increasing, and there is reason to believe that it will further increase, because the enrollments in higher institutions are increasing out of proportion to the increase in population. This constitutes the problem that faces us at the present moment. Shall we, as Superintendent Boynton has demanded, encourage every boy and girl to complete a college course, and should college authorities welcome all comers to the campus who apply for admission regardless of what happens to them after they leave the campus?

There is a further point that merits attention. The present writer completed a survey of a state system of education a short time ago. It was found that all the higher institutions of the state, both public and private, were overflowing with students. There was a state-wide sentiment in favor of encouraging boys and girls to go to college. The writer talked with many citizens who believed it was the duty of the state to give every child a college education if he would take it. Now what has been happening in this state?

College Education May Weaken a State

A very large proportion of the graduates of these higher institutions have not been able to find suitable employment in the state and so they have been drifting out into other states. Actually, the state has been drained to some extent of young men and young women who have been educated in the higher institutions and who have actually been unfitted as a result of traditional college training to perform the sort of work that is most needed to be done in the state. The natural resources of the state have not been developed because each oncoming generation has been trained for culture and professional occupations; but the state has not been able to utilize a fraction of these college-trained persons. Even so, many citizens maintain that it is an obligation of the state to give every youth a higher education, even though he would have to leave the state in order to find employment.

It can be said on the basis of investigations relating to the matter that a considerable proportion—at least twenty-five per cent—of the graduates of high schools cannot complete a traditional college course if the work is adapted to the intellectual ability of the majority of students. If the lower quarter of the seniors in any high school all go to college and if they receive any benefit from their work, then the college cannot meet the requirements of the upper three-quarters of the senior class, and especially the upper one-quarter. As a matter of fact, it is recognized on every university campus to-day that the universities are not providing for the needs of the more able students. Some of them, at any rate, on every campus are loafing on the job. The pace is set by the students who move with comparative slowness. Those who could push forward rapidly are spending their time and energies to a considerable extent in irrelevant and unproductive activities.

It is true that during the past four or five years there have been many discussions at meetings of college faculties of ways and means of differentiating gifted from comparatively backward

students, and attempts are being made to arrange so that the former can be kept busy with legitimate university work while the latter are being carried along. The sentiment everywhere has been that students once admitted to an institution must be retained, and helped according to their needs. While it has been impossible to comply fully with the popular demands, still university faculties have done so quite generally and have detached students from their respective institutions only in extreme cases.

Now, what is the effect upon a student who has been admitted to a university and who feels that he is, in a way, out of place? He knows that the particular type of ability that he possesses is not adequately provided for. He is required to pursue linguistic and formal mathematical and historical and other courses in which he is not gifted. He is at the bottom of his class and the effect upon him is not a happy one. If things come to the worst and he is excluded from the college circle, it is nothing short of a tragedy for him, which might have been avoided if, when he approached the college campus, he had been advised to pursue a course for which his natural qualifications would fit him and which he could complete with success and satisfaction and without having the stamp of inferiority constantly impressed upon him.

It is hardly debatable that the American people wish to give every youth in the country an opportunity to complete a college course if he possesses the ambition and the particular type of ability required therefor. But it is neither kind nor wise to encourage any youth to try a college course if the chances are that he will either fail, or merely pull through in consequence of the leniency or mercy or fear of his instructors. What then is to be done in the circumstances?

We Need a New View of Culture

First of all, we need to develop a new popular view of culture. We need to have parents, teachers, and laymen understand that a youth can become cultured without formal linguistic, or mathematical, or historical, or scientific or any other special type of college study. We appear to be ready in this country to act on the view that culture does not mean the acquisition of any particular variety of facts. In America an individual may be regarded as cultured if he can pull his own oar, play an intelligent role as a citizen, understand the physical and social world environing him, and adjust himself in peace, harmony, and good will to the people among whom he lives. Any knowledge that will contribute to one or all of these ends is cultural. If our people would ac-

cept this general view and be governed by it in advising youth in respect to an educational course, we could solve some problems that perplex and embarrass college authorities to-day.

Next, we are ready to make use of measurements of mental ability and of vocational aptitudes in the high school, so that we can, with considerable accuracy, predict whether or not a boy or girl will succeed in completing a traditional college course with reasonable success. It is not claimed that we have yet developed absolutely accurate measures of either intelligence or vocational aptitudes, but it is claimed that there are now available tests that will enable us to advise high-school seniors with confidence whether they should go on to college or should enter fields of study or of work that do not require a high degree of linguistic or mathematical ability or the capacity to perform abstract or theoretical intellectual tasks.

If we combine with the understanding of an individual's ability gained from tests, the record he has made through the elementary and secondary school, and the parent's and teacher's judgments of the individual's temperament, traits, and special type of ability, we can advise him far more intelligently as to the course to pursue after graduation from high school than if we follow the policy of encouraging everyone to go to college if he can get past the guards at the campus gate.

Let one thing be understood—the youth who is advised to go to college may not possess any higher type of ability than the youth who is advised to make preparation for a vocation or even a trade. The latter possesses a different kind of ability from the former; but the one may not be higher or more entitled to honor or distinction than the other. If we can correct the erroneous notion that has prevailed among us that the individual who can pursue abstract lines of intellectual work with success is necessarily superior to the individual who can succeed in concrete but not in abstract fields, we will find less popular resistance to the policy of making use of every new and approved method of determining an individual's traits and abilities in the high school, and advising him in accordance therewith in respect to his future educational course.

Discovering Eye Defects

The vision of the school child is of the utmost importance, and the stating of such a truism should seem unnecessary. Nevertheless, this importance is constantly overlooked. The strenuous use of the eyes of the pupils in reading, writing, etc., is emphasized in teacher-training and in prac-

tice before the question of their fitness for this use is looked into, according to J. F. Rogers, M.D., in *Health Education Bulletin No. 18*.

There is no excuse for a teacher not to know in a rough but sufficient way whether a child is handicapped by defective eyesight. That he is doing poor work or makes frequent mistakes in letters or figures should make her suspicious. Holding a book close, leaning forward when viewing work at a distance on the blackboard, or errors in reading such work point to near sight, while complaints of headaches and blurred vision, pain or fatigue of the eyes, may be due to far sight. Headaches and blurring of vision are very frequently associated with astigmatic errors, particularly those of low degree, though the vision, as tested by the Snellen chart, may seem to be normal.

Early Treatment of Strabismus

On examination any teacher should be able to detect strabismus or "squint" and note whether the child is "cross" or "wall" eyed. In such a condition the vision of one eye may be excellent, but that of the other is usually bad and will grow worse unless it is brought into use with the better one. For this reason and because of the handicap from its appearance, strabismus should be treated as early as possible.

Red or crusted lids or the presence of styes, which are easily observed, indicate eye strain in most cases.

The appearance of the inner lining of the lower lid is often used as a means of determining the condition of the blood, as to anemia, provided, however, that there is no congestion at the time from eye strain. The lining membrane, or "conjunctiva," can readily be seen by pulling downward with the finger upon the skin of the lower lid.

If the foregoing observations have been made, the use of an "eye card" with Snellen test letters is hardly necessary, though it may in many cases help to confirm opinions already formed. The test card (which is usually furnished by state departments of education) should be kept out of sight and in a clean place when not in use in order that the pupils may not become familiar with its letters and that it may be in good condition for use. It should be placed, preferably, so that the child can stand twenty feet from it. If it has a fifteen-foot line of letters it can be used at this shorter distance if necessary. It should be placed at about the height of the eyes and in a good light that does not shine in the pupil's eyes but comes from the side. If placed near a window at the front of the room, the light on a fair day from a side window will usually furnish good illumination.

The School's Duty—To Prepare for Life's Occupations*

The giving of information, experience, and advice in regard to choosing a vocation, preparing for it, entering upon it, progressing in it, is an integral part of education

By HARRY D. KITSON, PROFESSOR OF EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY

AMONG the discoveries of the past generation, one of the most important is the recognition of the fact that a great many people are unhappy and inefficient in their work. About the end of the nineteenth century when scientific methods began to be applied in industry, attention became focused on the human factors involved. It became evident that large numbers of workers in all occupations were maladjusted. Investigations have revealed that these startling conditions still obtain. Though we do not have facts that will enable us to measure perfectly the amount of this maladjustment, we have partial

measures that show it to be of stupendous size. For instance, in connection with the survey made in Richmond, Virginia, in 1915 workmen in a number of trades were asked, "Do you think you are in an occupation that is harmonious with your abilities and interests?" Forty per cent replied in the negative.

The writer investigated the records of persons who registered at a high-grade employment office in Indianapolis. The number who wanted not merely a new job but also a different kind of work was forty per cent.

For more objective evidence of the prevalence of vocational maladjustment we have only to examine the personnel records of any large concern

*This is the first of a series of articles by Prof. Kitson. The second will appear in an early issue.



A class in show card writing and sign painting.

(Wide World)



Dress making and designing are excellent vocations for girls

(Wide World)

and see the number of employees who leave their jobs. Such a study of the records of a number of manufacturing establishments in Rhode Island revealed that during the past year about a half of the workers quit their jobs. In some establishments the turnover amounts to more than 200 per cent in a year, which means that a concern employing 1,000 workers must hire 2,000 during the year in order to maintain its normal working force. When jobs are plentiful as they were, for example, in 1919 and 1920, the turnover often amounts to 400 and 500 per cent.

These figures refer chiefly to adult workers. Conditions are worse among juvenile workers. An investigation recently made by the New York State Department of Labor showed that fifty per cent of the employed children in the state do not like their present work. An investigator in Detroit who studied the working histories of about two hundred working girls found that of the 589 jobs that had been held by them, eighty-four per cent had been held for only six months or less.

These figures would lead us to believe that possibly one-half of the workers in the United States are not well adjusted to their work. If this is true it means that over 20,000,000 workers are thus afflicted.

The economic waste involved in such conditions is already a matter of concern to economists and employers. A number of studies have been made

to show the costs involved in losing employees and replacing them. The costs suffered by the employer are the result of lowered production, spoiled work, damage to equipment, higher accident rate, necessity for instructing new employees, and increased overhead expense. In connection with department store work it has been computed that every time a salesperson quits and has to be replaced by another the firm loses \$40. A store that employs 10,000 clerks and loses half of them during the year would lose \$200,000. If half of the 40,000,000 workers in the United States quit their jobs, and if the cost involved amounts to only \$20 each, the waste reaches the staggering sum of \$400,000,000, which must be borne by employers, workers, and ultimately the public as well.

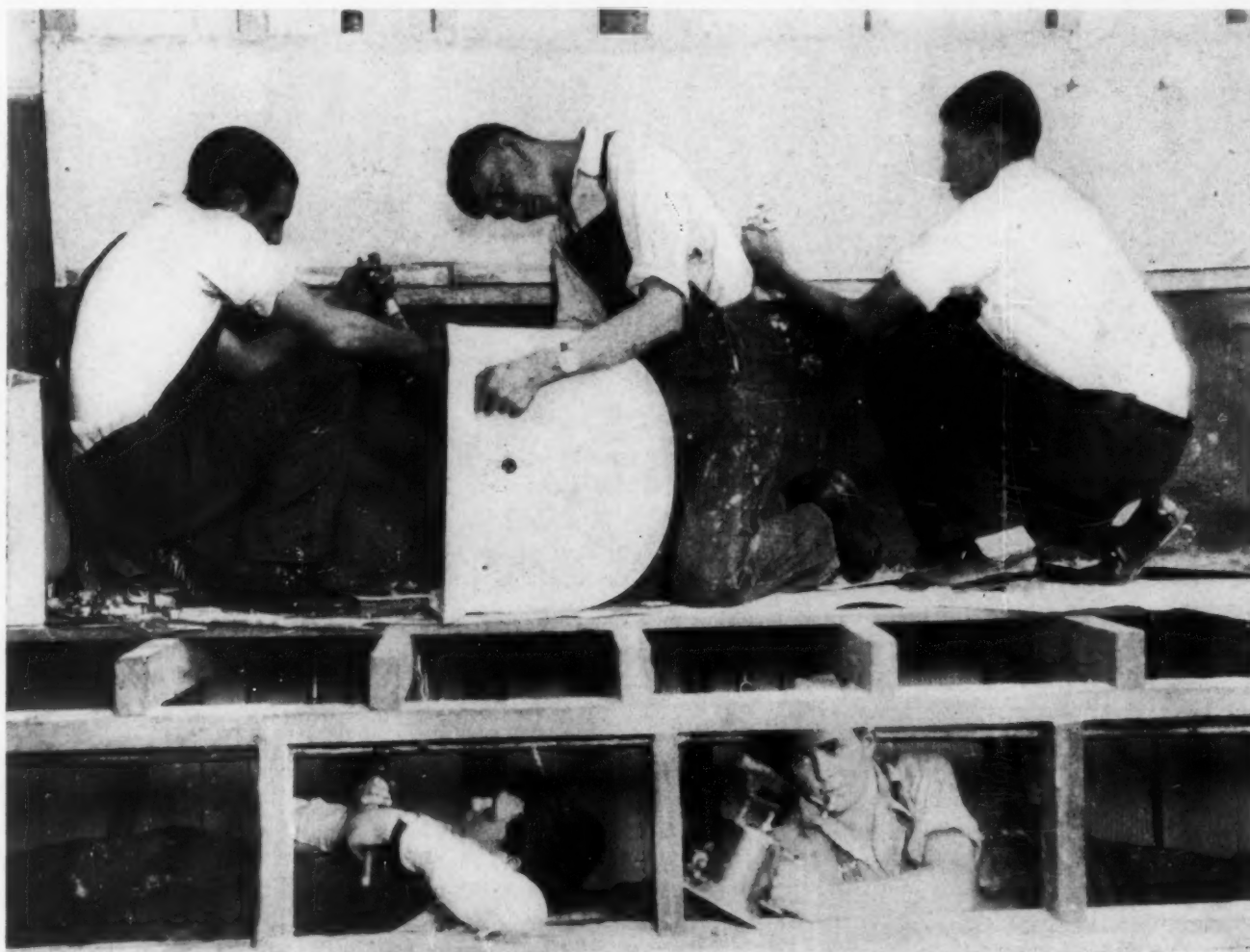
We might multiply figures showing the waste of goods and energy resulting from the maladjustment between workers and their work, but we have surely given enough evidence to show that the economic results are very costly to society and to the unfortunate individuals who are maladjusted. But the economic burden is not the heaviest. Accompanying these conditions are a host of other ills. The individual suffers socially. Changing from one job to another and working on a low level of efficiency, he cannot earn his maximum and so his family is deprived of social advantages. The mental anguish and moral de-

generation that result from failure to achieve success and the misery coming from doing loathsome tasks are beyond measure!

Inquiries into the histories of these maladjusted persons shows that their difficulties come from the fact that they never had any guidance that would help them in choosing a life work and in directing their energies along the most profitable channels. The more thoroughly one studies the conditions among workers the more clearly one sees that there is grave need for some agency or agencies that will provide the needed guidance.

The first efforts to furnish systematic vocational guidance date from the year 1908. At that time Frank Parsons, professor in Boston University, whose advice concerning choice of vocation had been sought by many young men and women, opened an office in which he counselled with individuals regarding this important matter. The service he rendered justified itself to such an extent that it was decided that wider facilities should be offered. It became apparent that the one agency serving the entire population, namely the school, should do this work. He has stated:

"Nearly all the children of the average community attend the public schools. They are in attendance at the age of adolescence when a boy begins to think more seriously of the work he would like to do, and when the majority, as their school days draw to a close, are approaching the time when they must make some decision as to the first job at least. The school system has, or should have, more complete and reliable information concerning the qualities and characteristics of the boys and girls of the community than any other agency. If it does not have all the needed information of this kind, at least it is in better position to obtain such as can be obtained—health and scholarship records, general intelligence ratings, social and moral qualities possessed by pupils, and the like. The school system, more than any other agency, either has the organization or can readily develop one required to gather the necessary information concerning occupations. The public has confidence in its schools and in their desire to render a genuinely fair-minded, disinterested service. What is more, the public has been placing upon the schools in recent years



Practical experience for plumbers' assistants.

(Wide World)

more and more responsibility for the welfare of its children; witness health inspection, physical education, and vocational education.

"Finally, vocational guidance is an educational service and as such should be considered an integral part of the educational program carried on by the recognized educational agency of the community. Helping the youth to obtain reliable and significant information upon which to base a choice of occupation, aiding him to find a suitable opportunity to begin work in the occupation of his choice, and giving him additional assistance

In view of these considerations, the school officials of Boston decided in 1910 to institute vocational guidance as a public service. Other school systems followed this example, until to-day there are twenty-eight cities with a population over 50,000 that have a director officially appointed in charge of guidance. In addition to these cities there are a large number of school communities that have inaugurated at least partial services of guidance. It may be estimated that approximately three million of the twenty-five million school children in the United States are enjoying vocational



Embryo carpenters practicing their theoretical knowledge.

(Wide World)

as needed during the period of adjustment and further training after employment begins are just as truly educational service as teaching the same youth history and mathematics. It may be added that the former service often has a more vital bearing upon his satisfaction in life and his contribution to society than the latter.

"When we consider the question of guidance we are considering not something that is to be added to education, not something that exists outside, but something that is really in the very center of education itself. When we speak of guidance, therefore, we are speaking of an integral part of education."

guidance of a more or less formal nature to-day.

When the term vocational guidance is mentioned the average person usually thinks of a kind of fortune telling; as a process of "finding the vocation for which the individual is *best fitted*;" "keeping square pegs out of round holes;" "discovering one's talent." And the vocational counsellor is regarded as a fortune teller who waves a magic wand over an individual (like a divining rod with which some persons claim to be able to locate water) and then tells him, "The fates decree that you should be an accountant."

This idea is partly an offspring of the wish most people have that some one would do their

thinking for them. They dread to make up their minds regarding a vocation and they prefer to shift the responsibility for doing so from their shoulders to those of some one else. The belief that this can be done is kept alive by certain persons who call themselves character analysts and who claim to have a "system" whereby they can make infallible diagnoses and give sure prescriptions.

In point of fact, such a conception of vocational guidance is not tenable. The truth is, no one can tell a person for what occupation he was "cut out." It is extremely unlikely that persons are "cut out" for any particular vocation. The individual is not either a square peg or a round peg. That figure of speech is not applicable. So far as vocational aptitudes are concerned, the individual is more nearly like a piece of clay. He can be molded into a number of patterns. Furthermore he may evolve; in the course of experience he may acquire one set of abilities and interests after another. Accordingly, we must conclude that it is not the task of the vocational counsellor to seek for some one mysterious occupation for which each individual was "cut out" at birth.

Another fact that we must take into consideration in giving vocational guidance is that occupations change from time to time. Some of the occupations that are current in this generation will die out and other occupations will arise. For example, who could have foretold in 1905, that Charles Lindbergh, then three years old, would be an aviator? Who could have foretold in 1915 that Graham McNamee would be a radio announcer? These vocations did not even exist on those dates—again indicating the fallacy in regarding vocational guidance as a form of augury.

Objection of Predeterminism

Another important objection to the current conception of vocational guidance is that it is based on a philosophy of predeterminism. To hold that an individual is "cut out" for but a single vocation is a fatalistic position. It implies that if a person finds his niche he will succeed; if he does not he will fail; and the failure will not be any fault of his. We shall not argue concerning the correctness of this view. We shall merely call attention to the fact that the greater part of the civilized world has discovered, in the course of its gropings after principles of conduct, that it can not build a successful society on that doctrine. It must hold every normal individual responsible for his doings. Accordingly we should not expect a counsellor, be he ever so adept, to prescribe the future for another person.

But the strongest single argument against the prevailing idea that vocational aptitudes are in-born and fixed comes from the simple fact that many persons succeed equally well in several vocations. As we study biographies, and especially the vocational histories of individuals, we see great numbers of people who have achieved equal success in a number of vocations. Theodore Roosevelt was conspicuously proficient as a soldier, politician, hunter, geographer, and writer. Josef Hoffman, the eminent pianist, is an inventor. In a recently reported interview he cites a number of other musicians who are expert in other lines: "Kreisler is an expert electrician. Bauer has invented electrical apparatus for treating neuralgia and can repair anything. Caesar Cui, the Russian composer, considered music only as an avocation; he was really professor of fortification and military strategy, an instructor of the late Czar. Stokowski, the conductor of the Philadelphia Orchestra, is a sculptor of ability." But vocational versatility is not confined to eminent persons. Many a man in humbler circumstances is equally skillful as a shoemaker, flute player, auto repair man, and the like.

Definition of Vocational Guidance

As workers in vocational guidance have become aware of these considerations, they have come to formulate a new conception of their task. They have come to regard it not as a system of necromancy through which to distribute young persons among the various vocations; not as a process that can be performed once and for all like vaccination. They regard it instead as a much more complicated undertaking; a service that should be interwoven with all education. Its real nature has been indicated by the following statement, which was adopted by the National Vocational Guidance Association in 1924: "Vocational guidance is the giving of information, experience, and advice in regard to choosing an occupation, preparing for it, entering upon it, and progressing in it."

From this definition we can see that vocational guidance involves the performance of several functions. The first of these is the collection and dissemination of information about occupations. It is obvious that before a person can make a rational decision about an occupation he must have facts. He may acquire these facts through courses in occupations that are often given in educational institutions or he may obtain them by reading, observing, or talking with informed persons. He must have them, however, and any agency that attempts to give vocational guidance must collect and disseminate such facts.

The next function is that of counselling. This should be performed by trained counsellors. A number of educational institutions have already appointed such officers and more are following as rapidly as circumstances will permit. As was intimated in the above definition, vocational counsellors should give advice not only about choosing an occupation but also with regard to the steps to be taken in preparing for the occupation and progressing in it.

Following these functions comes naturally the task of placement for the person who is planning to enter a given vocation often needs help in finding an opening wedge.

But even after a person is satisfactorily placed at work he needs guidance in shaping his career. This is recognized in the program of vocational guidance by the provision for a service of follow-up through which the progress of the worker may be charted, any undesirable condition under which he is working may be ameliorated, and any errors in his choices may be rectified.

These are, broadly speaking, the services that are comprehended in the term vocational guidance. It will be our purpose in this series of articles to describe the ways in which certain schools are performing these functions; to suggest extensions and improvements that can be effected; and to show how every school organization can establish at least some of the functions of vocational guidance and thus make its contribution toward reducing the vocational maladjustment in the next generation.

Also a College Problem

While we are presenting vocational guidance primarily in relation to public schools, we should recognize that it is not exclusively a concern of the public schools. Administrators of colleges and universities are also trying to solve the problem. Every year they receive large numbers of students who, after trial, show themselves unable to pass the courses in college. The number of students who fail at the end of the first year often amounts to one-third. Accordingly, it is coming to be recognized as a sound principle of college administration that some means should be set up whereby applicants for admission can be studied in order to ascertain their probable fitness for college training.

But those students who are able to do college work need guidance as well. A large part of them have not decided on the vocational path they will follow. And many of those who have decided have done so on a very flimsy basis. Colleges and universities are instituting bureaus of vocational guidance and personnel that attempt to render

the services outlined as the functions of vocational guidance—gathering and imparting information about occupations, counselling with students, placing them, and following them up. Among the larger institutions where such bureaus are maintained are Yale, University of Chicago, Princeton, Stanford, University of Michigan, University of Colorado, Purdue University School of Engineering, and Smith College. Altogether it is probable that over one-third of the 850,000 college students in the country are receiving the benefits of some form of guidance.

Use in Business and Industry

But educational institutions are not the only agencies in which vocational guidance is being carried on. In business and industry much guidance is being given. In every establishment there are workers who are not well adjusted to their jobs. Enlightened personnel managers are seeking to improve such conditions by performing the functions of guidance mentioned before. They give to aspiring employees information about the higher positions to which they may expect to be promoted. They counsel with employees regarding the improvements that they might bring about in their work and in their personality. They help them to prepare for advanced positions with the company, and when the time is ripe they place them in these positions. In short, the modern personnel manager in industry is a true vocational counsellor.

It is natural that any problem of such wide scope as that of vocational maladjustment should receive the attention of many social agencies. Accordingly, there are many organizations that are attempting to give services of vocational guidance. Some of them conduct placement offices through which they try to find appropriate jobs for persons who cannot find them unaided. Sometimes they furnish scholarships to young people who would otherwise be unable to secure proper education. Some of them serve particular groups such as cardiacs and cripples who need special treatment. It is impossible to give here a complete list of social and philanthropic agencies that are endeavoring to give vocational guidance. Among them are the Young Men's and Young Women's Christian Associations, Young Men's and Young Women's Hebrew Associations, Knights of Columbus, boy scouts, girl scouts, Order of De Molay, settlement houses. Enough has been said, however to show that vocational guidance is really a vast social movement requiring the co-ordination of a number of agencies in each community looking toward the advancement of the vocational

welfare of every individual in the community. School administrators should lead this enterprise and should inspire the rest of the community. Superintendents of schools often voice a desire to bring the school in touch with the life of the community, make it understood by the community, and integrate it with the community. One of the best ways to accomplish these aims is to inaugurate a program of vocational guidance.

As will be gathered from this discussion, the perfected service of vocational guidance in a school system requires the organization of a bureau that will be responsible for carrying on the activities of guidance. This bureau should be a separate organization not a wing of the department of attendance, vocational education, or measurements. The director should be responsible directly to the superintendent.

But in case it does not seem feasible to organize a complete bureau of vocational guidance a school administrator can still instill some of the services of guidance and gradually incorporate a formal bureau. In forthcoming articles, we shall describe in some detail how to make such beginnings.

The Superintendent and the Board

"The most important office is that of superintendent of schools," says W. S. Deffenbaugh in *Bureau of Education Bulletin No. 2*. "If a good superintendent is elected, and if the board delegates to him the management of the schools, there should be but little cause for complaint from those who believe that the schools should be managed in the interests of the children. The position is important because the superintendent is the officer who carries out the wishes of the board; he not only carries out their wishes but submits plans for the management of the schools for the board's consideration.

"The relation of a school board to its superintendent does not differ materially from the relation that a board of bank directors sustains to the cashier or the president of a bank, or that a board of directors of any private corporation sustains to the superintendent it employs. The stockholders in a private corporation elect a board of directors to look after their interests in the conduct of the enterprise. These directors know but little about the technical details of the business they are empowered to administer. Few, if any, could do the work of one of the clerks or mechanics, much less supervise it; so they employ a superintendent to do this and hold him responsible for results. If he can not conduct the business so as to declare dividends, he must show why

he cannot. In fact, upon his shoulders rests much vital executive responsibility.

"The superintendent being the executive officer of the board, all supervisors, principals, teachers, and others should report to the board through the superintendent, also through the proper administrative channels so that there may be no 'crossing of wires.' The superintendent should not ignore the supervisors or principals when he gives instructions to the teachers, but should communicate with them through the supervisors or principals.

"The people elect school-board members to serve their interests, but the average school-board member, like the average member of a board of directors of a private corporation, knows nothing of the technical aspect of the work; yet it sometimes happens that school boards or individual members of the board attempt to do the things they are paying the superintendent to do.

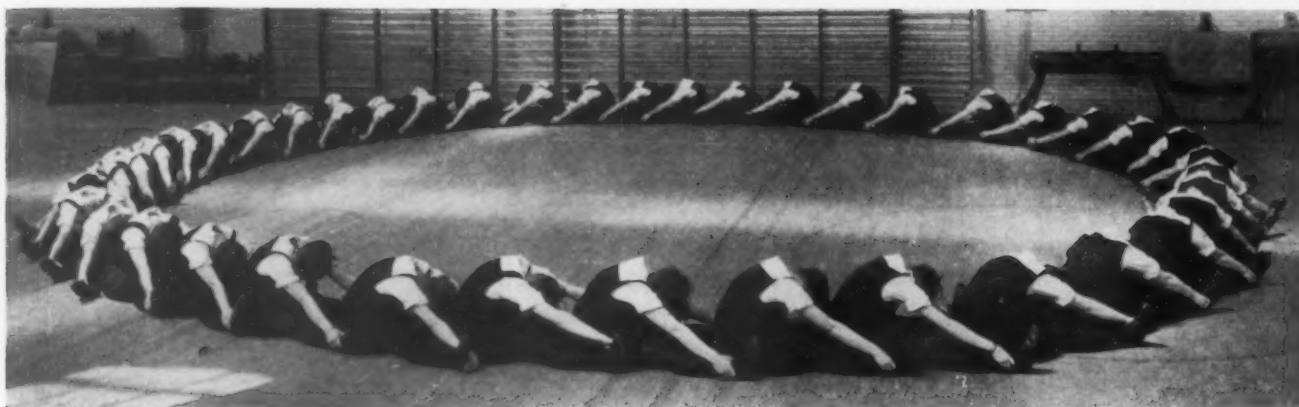
"In the business world many cases of failure are due largely to the fact that the board of managers attempts to dictate in regard to matters of which it is entirely ignorant. Corporations have failed because the board of directors made its superintendent a figurehead. In brief, no board of directors, whether of a public or a private corporation, should attempt to do the work it is paying an expert to do."

Who Is Actual Head?

H. S. Ganders, in *Bureau of Education Bulletin No. 18*, states "the actual head of the schools under the board of education is the superintendent of schools, in the great majority of cities. The duties of superintendent are performed by the principal of the elementary school in less than one-tenth of the cases. The office of senior high-school principal is distinct from that of the superintendent in eighty-five per cent of the cities. The principal's duties are assumed by the superintendent in fifteen per cent.

"The duties of junior high-school principal are performed by the elementary principal in thirty-eight per cent of 412 cities; by the senior high-school principal in twenty-one per cent; and by the superintendent in sixteen per cent. In only twenty per cent of these cities is there a separate junior high-school principal. This condition, no doubt, is due to the relative recency of the junior high-school movement.

"The elementary principalship is a separate position in ninety-one per cent of the cities reporting; the duties are performed by the superintendent in three per cent and by the senior high-school principal in three per cent."



(Underwood & Underwood)

Choosing Teachers Who Are Physically Fit

Those preparing to teach and those engaged in teaching should be in the best physical condition, not only for their own good but as an example to their pupils

BY CORA DEFOREST GRANT, WASHINGTON, D. C.

AM I physically fit to teach? Will I pass my physical examination? These are questions of importance to every graduate of the normal schools of the District of Columbia. Before graduation all student teachers are required to undergo an examination to determine their physical fitness to engage in the teaching profession, and all remediable physical defects found must be corrected before their appointment is confirmed. Applicants having serious permanent defects are rejected. This examination, and the fulfillment of its requirements, is extended to include all others applying for teaching positions who are not graduates of the local schools. The examination is made by the school medical inspection force.

One of the greatest single factors in preparing the student teacher to pass this examination is the intensive health education methods of the nutrition classes that are a part of the regular curriculum of Miner Normal School. Upon admission to the school each student is given a thorough physical examination, weighed, measured, instructed in keeping the individual weight record charts, and work is begun toward physical fitness. Each week thereafter the pupils are weighed, gains or losses recorded, and instruction upon the importance of the strict observance of fundamental health practices is given by the assistant director of physical training, Miss Anita Turner.

The school physician and various members of the faculty frequently supplement Miss Turner in giving these health talks. The time allotted to the work is taken from the ninety minute per week physical training period that was formerly devoted entirely to practical gymnastics. It is in these weekly nutrition class meetings that pupils are brought to some realization of the effect upon health of late hours, insufficient rest, over-fatigue, badly balanced diet, and physical defects. Emphasis is placed upon the fact that regulation of rest, sleep, good health, and good food habits are all matters of education. When these simple practices are violated, reserve energy is destroyed and resistance is lowered. On the contrary, observance of these habits and correction of remediable physical defects develop a state of nutrition that builds resistance to disease, creates energy, and makes for general well being. There is nothing new in this simple health preachment, but the need of health for good work is so great that if results are to be obtained the subject must be presented in a manner that will arouse interest. The weight record, with its weekly charting of fluctuating weights, and the recording of factors affecting the physical condition, has proved to be an effective method in stimulating this much desired interest.

One ambitious pupil—E.—entered the normal school weighing 122 pounds, which was four

pounds above normal. She immediately began to lose weight, dropping rapidly to 106. An examination by the school physician did not show a physical cause for this rapid loss of weight so the nutrition worker then took up the question of social environment that is always an important factor in health conditions. The cause was found: Late hours and insufficient rest. She was working from 4:30 to 10:30 P. M. in a physician's office to assist in the support of an aged mother. She was immediately referred for rest cot periods and in ten weeks had increased her weight 12.5 pounds, which enabled her to carry the full school program and the burden of her family responsibilities without undue fatigue. She was only one of eight seriously underweight girls all of whom were employed long hours after school, who were recommended for rest cot periods.

The effect of an inadequate breakfast or insufficient or badly balanced diet registered to a surprising degree on the weight charts. As a result of this disclosure two changes of general importance to all student teachers took place: First, the installation of a fifteen minute morning recess period offering an opportunity to purchase milk and graham crackers that were sold at cost; and, second, a hot nourishing noon-day lunch. This service is under the direction of the principal and menus are prepared by the dietitian.

Faculty Discussion of Health Program

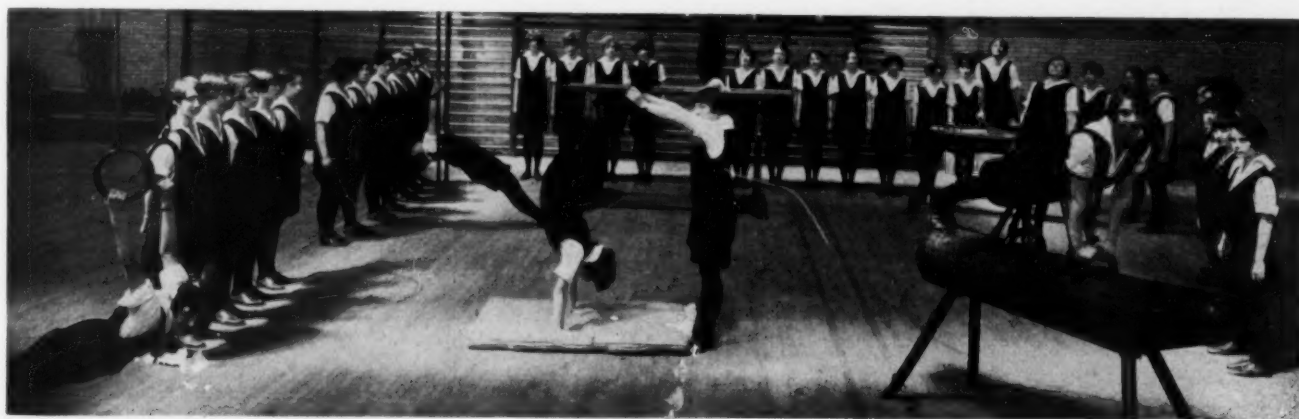
One extension of the nutrition class work is the meetings of the faculty for the specific purpose of discussing the daily program of the underweight student to determine the amount of work necessary for the preparation of outside assignments. An interesting development of these meetings was the discovery that many teachers, in their interest and enthusiasm to develop their own subjects, were giving assignments for home study far out of proportion to the time allotment in the regular day's schedule. The establishment of a

program of home study was introduced that considered not only the results to be obtained in a particular subject, but also in the physical well-being of the student.

"The greatest single factor in helping us to determine whether a student is working under too great a physical strain, necessitating the readjustment of home assignments, is the weight record charts," says E. A. Clark, assistant superintendent of public schools, who was the principal of Miner Normal at the time this health program was introduced. "They have been instrumental in bringing to the attention of the faculty the necessity of arriving at the point where these adjustments are made; and in gaining the support of the teachers who are thinking more about the physical welfare of the student-teacher rather than the development of their own particular subject." The attitude of these teachers is reflected constantly in the fact that reports concerning the physical condition of students come as frequently from the teacher of arithmetic, history, or literature as from the nutrition director or the director of physical education.

All Departments Must Co-operate

Successful progress in health education is possible only where all departments of instruction co-operate. Considerable credit for stimulating this relation is given to a small nutrition class of practice pupils, inaugurated by the local tuberculosis association in 1920. At that time the Miner Normal school nutrition clinic for colored children and the Thompson school clinic for white children were conducted as a demonstration in child health education. These two first nutrition clinics in the Washington, D. C., public schools were an extension of the Children's Health Crusade that had been admitted to the school system in 1919 as a post war activity under the joint auspices of the American Red Cross and the Washington Tuberculosis Association. The clinics received the sanc-



Physical exercise will assure these normal school girls of being physically fit to teach. (Underwood & Underwood)



(Underwood & Underwood)

* *Training the muscles to co-ordinate with the mind.*

tion of the superintendent and the board of education, and the following year sixteen clinics, eleven for white and five for colored children, were organized under the joint auspices of the health department, the school medical inspection service, public school officials, and the local tuberculosis association.

Each year the work has developed. To-day every public school and a number of parochial schools in the District of Columbia are promoting some type of child health activity. The work varies from mass weighing and measuring to definite instruction in health knowledge, physical examinations, nutrition clinics, etc.

The personnel of the nutrition class department is composed of school physicians, nurses, and nutrition teachers, who work under the supervision of the chief medical inspector of schools, Dr. Joseph A. Murphy. Each class averages an enrollment of twenty pupils. The meetings are held weekly during school hours. Parents are requested and expected to be present at each meeting. Where it is necessary, the school nurse or nutrition worker visits the home.

Included in the twenty classes are those con-

ducted at the two schools for tuberculous children. Here it is possible to carry on an intensive program that has developed gratifying results. During the first semester following the installation of this special work twelve cases of active tuberculosis were pronounced arrested as compared with eight cases for the entire school year previous to the introduction of this special work. And the average gain in weight at present is 8.9 pounds per child as compared with 2.7 pounds. During the summer the nutrition classes are continued at the Children's Sanatorium where these little folks suffering from tuberculosis spend their vacation. And the nutrition worker keeps in close contact with the homes, in an endeavor to improve general conditions.

Other extensions of the city-wide nutrition campaign are:

(1) The weighing and measuring of all the school children who play the red, white, and blue weight card game and to whom a four-page folder is distributed containing a daily health program and information regarding the importance of correcting physical defects.

(2) The inauguration in 1922 of a ruling that excluded from strenuous athletics all children with physical defects and also those who are seven per cent or more underweight for height and age. Formerly it was customary to exclude only those pupils who were below the seventy-one per cent requirement in their studies. Now a minimum standard of physical fitness, determined by a thorough physical examination and the weight record, is the entrance requirement.

Athletes Must Be Physically Fit

This ruling was effected after the attention of the director of physical training had been called to the various reports from the nutrition clinics. The seriously underweight children in these clinics were invariably found to lose weight consistently while participating in the spring athletics.

(3) The children's diagnostic clinic, established at the bureau of health education in 1922, removed to the Children's Hospital in 1925 and now is in operation at the social service house. The need for this diagnostic clinic grew out of the ever increasing demands from the nutrition clinics for the physical examination of a large number of children than could be handled in the schools.

(4) A syllabus on health training and instruction was written by Dr. Rebecca Stonerod, director of physical training in the white schools, who worked in collaboration with a committee of school officials and the writer, appointed by the school superintendent.

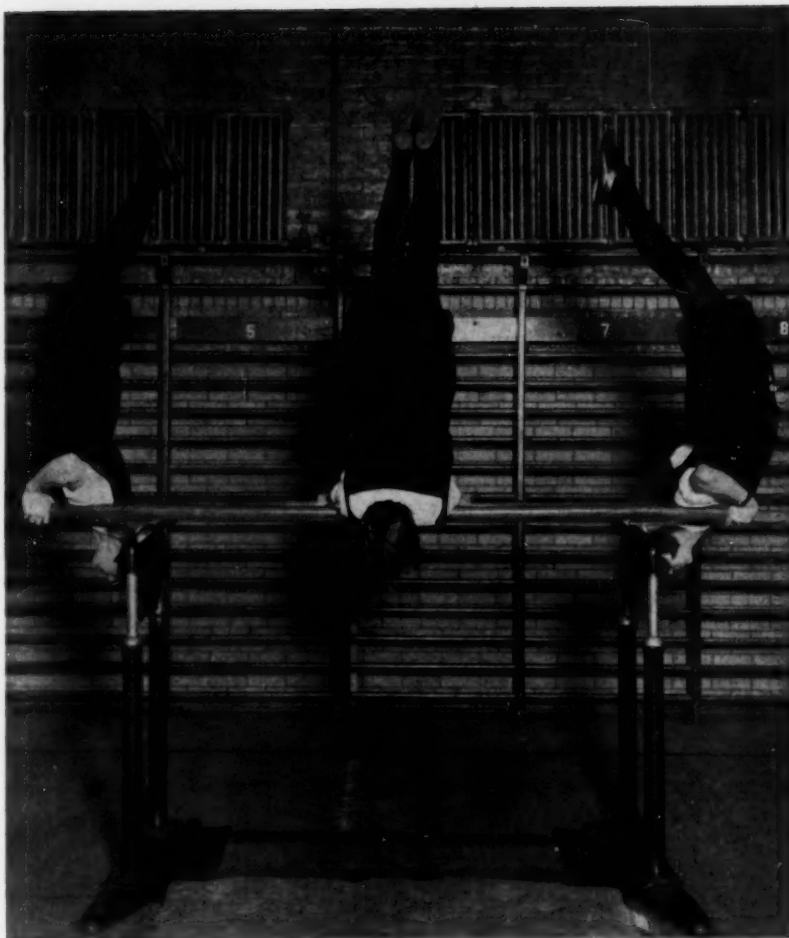
(5) "The Well Nourished School Child," a small pamphlet, is distributed annually to all fourth grade children; and "Health Jingles," attractively illustrated little rhymes, are presented to all third grade children. These publications, at the suggestion of the school superintendent, are used as subject matter by the teachers before the children are permitted to take them home.

(6) The mid-morning lunch of milk and graham crackers is available in practically all of the schools, with the teachers taking the entire responsibility for this service in many instances, while in others the members of the parent-teacher association are in charge. The milk, a straw, and two graham crackers are sold for four or five cents. The children are encouraged to spend their pennies for this wholesome lunch instead of dill pickles or lollipops. The quality of the milk selected is determined by the ratings of the dairy. The school principals were requested to place their names on the mailing list of the monthly milk rating bulletin issued by the board of health, and to select the milk having the highest rating.

The long, slow process of educating and building up a public conscience to the responsibility of child health is now universally recognized, and schools throughout the entire world are placing greater emphasis upon child health supervision.

Importance of Health Education

Dr. Frank Ballou, superintendent of Washington, D. C., public schools and former president, department of superintendence, National Education Association, in a recent interview said, "I believe that health education is one of the most important subjects in the education program today. The assumption in the past that health instruction should and can be successfully carried on in the home has proved in large measure to be erroneous. Progressive school systems are finding it necessary to incorporate a program of health education in the schools."



(Underwood & Underwood)
There is no doubt but that these embryo teachers will be in physical condition to teach their classes.

Occasionally, in the less progressive communities, one encounters resentment toward this extension of medical and health supervision by school physicians, nurses, and nutrition workers. But the great majority of parents appreciate the value of possessing the best scientific information for maintaining the health of their children, and gladly provide for expert medical advice. With others this service is prohibitive except in emergency, while frequently parents do not realize the value of preventive measures. It is that part of malnutrition and illness due to ignorance or economic factors that is finding solution in the school clinic and in the widely extended teachings of good hygiene now rapidly becoming a part of the curriculum of all modern education systems.

A prominent educator recently said, "When I went to school the teachers were supposed to train my mind, but they did not know what to do with my body, it wanted to wriggle and twist about and so they stood me in a corner or thrashed me." Now instead of "thrashing" the nervous, irritable, underweight child, he receives a physical examination, is told how to get well, and is taught daily how to keep well. The results are better.

Business Administration Problems of Local School Systems*

Officers must determine and establish what the system should try to do and, after identification and formulation, must set about to achieve the aims chosen

By JOHN GUY FOWLKES, PH. D., PROFESSOR OF EDUCATION, UNIVERSITY OF WISCONSIN

THE FIRST obligation of administrative officers of a local school system is the determination and establishment of just what that school system should try to do. In other words, the first duty of the administrative staff of a local school system is the establishment of the purposes or objectives of that particular educational organization. After the desired goals have been identified and formulated, it obviously becomes necessary to set about to achieve the aims that have been chosen. The attainment of the ends that have been agreed upon for a particular educational institution demands: First, a scientifically derived curriculum; second, the personal service necessary for the pursuit and mastery of the curriculum; and, third, the plant, equipment, and materials needed for the satisfactory realization of the desired results of the schools involved.

The Primary Task

The construction of a modern school curriculum on the basis of fact rather than fancy, in terms of human needs rather than personal prejudices, is being recognized, rather generally, as the primary task of those who are trying to be professional educators. The unprecedented research and experimental work with the curriculum, coupled with the large number of new professional volumes and classroom textbooks that appear annually, is doing much to help the public administrator formulate a philosophy of education that will produce a curriculum that will render the greatest good to the greatest number, and at the same time provide suitable training for persons of exceptional ability.

Some of the recent developments in education that furnish striking proof of this endeavor to refine the program of the modern school are the Junior High School, the X Y Z plan of grouping, individualization of instruction, the socialization of the curriculum, the project and problem meth-

ods of organizing and administering the curriculum, and last, but by no means least, the widespread attempts to revise local school curriculums, outstanding examples of which are Denver, Colorado, St. Louis, Missouri, and Port Arthur, Texas. One of the factors that have done most to inaugurate a general curriculum revision is the development of new methods or techniques for choosing the subject matter and activities that should be included in the offerings of the present day school.

Along with the attempt to improve the curriculum of the modern school has come a concerted movement to raise the personal and professional qualifications of those who "elect" education as a life profession. The most convincing evidence of this effort to improve the personnel of the professional educator is found in the ever increasing demands of the various state teacher certification laws, the requirements of college degrees for teaching positions in the best high schools, the granting of bonuses and other rewards to teachers who exhibit a desire and inclination toward professional growth, and the well-nigh incredible growth of state departments of education with a corresponding expansion of departments of education in colleges and universities. Naturally, along with this exacting attention towards the professional teacher have come more scrutinizing standards for selecting the teacher on the one hand, and evaluating and improving the procedures of the classroom worker on the other.

Any thoughtful student of existing educational conditions will agree that the most fundamental problems of educators are:

1. What to teach
2. Who to teach
3. How to teach

Stated in more technical terms these issues become problems of

1. Curriculum construction
2. Pupil selection and classification

*This is the first of a series of articles that Dr. Fowlkes will write on the business administration of local school systems.

3. The teaching staff and methods and techniques of instruction

True it is that these must be the basic considerations of the professional educator. Fortunate it is that recognition of these essential factors is being made, and that action is being taken to create the best possible conditions in respect to them. Only insofar as the offerings of a school are determined on a scientific basis will the schools really provide the kind and quantity of education needed by the citizenship of this country.

"Attitudinal Reactions"

But, as one views the present day efforts toward the improvement of educational institutions, he is struck with the irrefutable fact that professional educators have only begun to be really professional. Most of the work that has been done in the field of curriculum revision up-to-date has concerned itself nearly exclusively with mental or intellectual reactions. This emphasis on the mental operations has been inevitable, since this is the only section of the curriculum that in any way has been definitely crystallized and formally organized. But social, personal, and emotional traits, in short, "attitudinal reactions," as well as "intellectual reactions," exert a powerful influence on human life, thought, and action.

Consequently, if professional educators are in earnest in their statement that: "Modern education is trying to teach boys and girls to do better the things they are going to do anyway, and also to train boys and girls in such a way that they will choose higher types of activities in which to engage than would have been chosen, had such training not been offered"—then research in the curriculum must include the field of "attitudinal reactions" as well as "intellectual reactions." In order to start exploration in this wide uncharted realm of emotional elements, it is imperative that existing methods of curriculum construction be subjected to exhaustive refinement, and many new techniques of study developed. This new type of research is much harder to conduct than the old, but will yield equally great rewards, and will receive the enthusiastic support of the laymen.

Much comment has been made in recent years concerning the existing devices for the measurement of human capacities and abilities. Standardized mental tests bearing the title of either intelligence tests or educational tests have been accepted without reservations by some, received with intelligent analysis by others, and by still others, dismissed with only a superficial or unfair hearing. In spite of the real division of opinion concerning the reliability of the available instruments for measuring human capacities and abili-

ties, there is a rather marked agreement among all concerned that the placement, guidance, and evaluation of the student at any level must be on a more objective basis. "Sizing people up" will probably always be one criterion for measuring ability and achievement of all kinds.

But this rule of thumb procedure, as unreliable as it is empirical with most people, must be one of many, rather than a sole basis for student selection and classification. Just as is the case with scientific curriculum construction, much careful and scholarly work must be done in the improvement and construction of mental examinations. Those who are best versed in the work that has been done in the measurement of mental capacities and abilities are most keenly conscious of the inadequacy and fallacies of the existing supply of measuring devices. But at the same time, the legion of people that is devoting unsurpassed ability and skill to the problem are most sanguine of the ultimate success in the field of educational and psychological measurement.

Teacher's Task Overwhelming

Marked as has been the improvement in the legal requirements for teaching credentials, the personal and educational characteristics of the body of professional educators is far from ideal. The task of a teacher is well-nigh overwhelming if full cognizance is taken of the real meaning of the word teacher. It seems to me that a person to be a real teacher must be a consulting engineer in the realm of human behavior.

Ruskin defines a laborer as he who works with his hands, an artisan as one who works with his head and hands, but an artist is that individual who works with his head, hands, and heart combined. Parents are unrelenting in their demands for master physicians in developmental, preventative, and corrective medicine alike. The successful financier is inexorable in his insistence for the best legal counsel that can be found.

Are such standards of quality to be reserved for the physical and monetary treasures alone? Or will we require a master teacher for the future men and women of this nation? The ultimate master teacher must possess on the one hand the unerring, impersonal, unprejudiced accuracy of the scientist, and on the other hand the pulsating sympathy of the parent. Either without the other is certain to produce an unbalanced, and hence an unstable character. Then if we are to have the master teacher, new and more discriminating criteria for teacher certification must be formulated as the teacher becomes really professional.

Also, it is inevitable that the same teacher qualifications be applied to teachers at all levels. Does

a child in the kindergarten not need as highly developed technical skill for an abundant education as does the adolescent youth of the high school? Should children whose place of birth and childhood residence happen to be in rural communities be denied the privilege of the master teacher? In other words, is it not time that equally stringent teaching standards be established and maintained for urban and rural schools alike, from the pre-kindergarten group through the last years of graduate study in the university?

Cost of Education Has Increased

The improvement of the modern school curriculum has of necessity increased the cost of public education. Bureaus of curriculum construction, administered by peculiarly well qualified and technically trained workers have been made inevitable additions to the administrative staff of many communities. As a consequence, the salary budget of the non-teaching group of professional educators has increased. New demands for both basal and supplementary text material along with the evolution of sadly needed standards for teaching materials and supplies have brought a substantial increase in the amount of money expended for these items. It is evident that new equipment and building facilities must be furnished for the attainments of the modern school curriculum. Present tendencies indicate that the relative cost of these items will increase from time to time.

Higher professional requirements have brought a corresponding increase in salary requirements. The very wholesome introduction of the single salary schedule has automatically raised the salary budgets of local school systems. School psychologists, school counsellors, and other specially trained workers have caused additional expense in many local communities. As the quality and adequacy of this highly desirable personal service is added, so must the budget for personal services be enlarged.

It matters not how excellent a list of objectives have been formulated for a local school system unless adequate funds are available for the employment of the necessary personal service for the complete attainment of these objectives. The best possible teaching staff will be irreparably handicapped unless proper building quarters are furnished, and the necessary tools and materials of instruction are provided. Teachers, textbooks, supplies, and buildings are the channels through which the objectives of a local system of education are realized.

With the increasing cost of public education, has come in some communities a challenging in-

quiry as to the cause of these increased costs. Indeed, in some quarters the selection of administrative boards and officers has been on the basis of financial retrenchment on the one hand, or educational expansion on the other. Sometimes in connection with this financial controversy the charge has been made that school superintendents and principals are good educators, but poor business men. Sometimes educational administrators have taken the attitude that a community has only a limited amount of money to spend, and have set about to expend the sum available with as little exertion as possible. Such a spirit is that of the professional traitor.

It is the inescapable responsibility of a school administrator to determine the best educational program possible for the given community. It then follows that such a program must become the proud possession and proprietary interest of every citizen of that community. It is the privilege and duty of the educational administrator to show that such a program demands professional workers, especially constructed buildings, special equipment, and necessary books and supplies. Parenthood represents the highest form of human emotions. Children epitomize this feeling. If tax payers can be shown that more money will produce better men and women, more money will be furnished. However, a community is entitled to make inquiry concerning value received for educational expenditures. Wise and judicious administration of educational expenditures should be demanded by a local community.

Efficient Business Methods

In the light of these facts, it behooves a school administrator to be constantly alert to the most efficient methods of business administration. The first step necessary for intelligent business administration of public education is the recognition and isolation of the problems that lie about in the school system involved. The following questions contain some of the most common, and at the same time perplexing, problems that a school administrator encounters in the efficient administration of public education. This list is not exhaustive, but it is representative. It is presented with the hope that it may be of help to superintendents and principals in locating some unsolved problems in their present situations. The major divisions of the business elements of educational administration may be stated as follows:

- I. The Problem of Local School Support
- II. The Organization and Control of Local School Finances and Business Management
- III. Financial Accounting

IV. Unit Costs and Unit Accounting

V. The School Budget

VI. Property Accounting

VII. Insurance

VIII. School Supply Management

For the sake of allocating the problems presented, the questions are classified under these eight headings.

I. The Problem of Local School Support

1. What is public education costing the community in which you live?

2. What are some reliable standards for determining a fair cost of education in your home community?

3. Is education costing too much in the community in which you live?

4. What is the attitude of the public toward public school expenditures? How is this attitude expressed?

5. Are there any regular school activities, such as athletics, dramatic productions, etc., for which the board of education should not assume financial obligation?

6. Should all revenues from regular school activities, such as athletics, debates, etc., be turned into the regular school funds?

7. Can the issuance of bonds for operating purposes ever be justified?

8. Can the issuance of tax anticipation warrants as a continued policy over a period of years be justified?

9. What are the present sources of revenue for public education?

10. What portion of the present school monies come from the state?

11. What portion of the present school monies come from the local community?

12. Are present sources of revenue for public education adequate for the necessary expansion of the educational program that your community needs?

13. What are some fallacies in the present methods of supporting public education in your community?

14. What are some possible methods or sources of school support for your community not now utilized?

15. How can different methods or sources of school support from those now used in your community be made available?

16. To what extent is a community justified in floating bonds to build school buildings?

II. The Organization and Control of Local School Finances and Business Management

1. What are the qualifications for desirable members of boards of education?

2. How many members should there be on the board of education?

3. What should be the tenure of boards of education?

4. How much should boards of education be paid?

5. How should boards of education be chosen?

6. Should the school budget be a part of the general city budget?

7. Is it desirable that the school budget be passed upon by any body other than the board of education?

8. Is it desirable to have a business manager for a local school system whose office is co-ordinate with and separate from the office of the superintendent of schools?

9. If such dual organization exists in your community, what is the relation of the superintendent to the other officers?

10. Should the superintendent administer all school funds?

11. Should the superintendent of schools be responsible for the compilation and defense of the school budget?

12. Should it be necessary to submit bond issues for school purposes to a popular vote?

13. Should bonds issued for school purposes be obligations of the city, town, or village in which the school system is located, or obligations of the school district in which the school system is located?

14. Are there any school activities, such as athletics, over which the board of education should not exercise fiscal control?

III. Financial Accounting

1. What are the functions of financial accounting?

2. What are the best bases for classifying school monies?

3. What is the proper relation between the school curriculum and the classifications of the accounts?

4. How should the system of financial accounting for a school as a system as a whole affect the internal financial accounting, such as the school cafeteria, receipts from school activities, etc.

IV. Unit Costs and Cost Accounting

1. What is the meaning of the term "unit costs?"

2. Of what value can unit costs be to a principal or superintendent?

3. What are the most commonly used "unit costs" in respect to public education?

4. What are the relative advantages and disadvantages of the possible bases for computing unit costs?

V. The School Budget

1. Should the board of education or the city council authorize the school budget?
2. Should a committee of the board of education or the superintendent of schools be responsible for the preparation and presentation of the school budget?
3. What part should supervisors, building principals, departmental heads, and classroom teachers play in the development of a school budget?
4. What information is needed for the preparation of a school budget?
5. At what time of year should the school budget be made?
6. What forms are needed for the construction of the school budget?
7. What should be the relation of the form of the school budget to the financial accounting system?
8. What should be the relation of the system of financial accounting to the budget?
9. What kinds of publicity should be given to a school budget?
10. When should the budget be adopted?

VI. Property Accounting

1. What are the major functions of property accounting?
2. How should the school curriculum, budgetary procedure, financial accounting, and property accounting be related?
3. What are the best major or control classifications in property accounting?
4. What are the major divisions of sound property accounting?

VII. Insurance

1. What "kinds" of insurance should every local school system carry? For example, should each system carry fire, tornado, storm, burglary, liability, collision, and if not all, which kinds?
2. Should a local school system attempt to carry its own insurance?
3. Should insurance be spread among several companies, or centered?

VIII. School Supply Management

1. Are school supplies ordered directly through the superintendent's office? If not, who has direct charge of this?
2. When is the order for the bulk of the supplies for the school year placed?
3. Are copies of the lists of supplies made and sent to various concerns for the best prices? Are prices quoted on the entire list? On sections? On every item?
4. Who has charge of the final awarding of

the contracts or the final placement of orders?

5. Have you a special form for ordering supplies?
6. To what extent is your final order list made up from advance requisitions from teachers?
7. Have you attempted to standardize the supplies that go into the average grade room? If not, what determines the amount allotted to each room?
8. How large a quantity of general supplies is delivered to a grade room at one time?

Summary

The attempt has been made to show:

- I. That the fundamental problems of education are those pertaining to
 1. Curriculum construction
 2. Pupil selection and classification
 3. Technique of teaching
- II. That the three major functions of an administrator are
 1. The development of a scientific curriculum
 2. The selection and recommendation of the people needed
 3. The provision of necessary funds, buildings, equipment, and supplies
- III. That much improvement is needed in respect to
 1. Curriculum construction
 2. Teacher qualifications
 3. Teaching methods
 and that much research must be conducted within these fields.
- IV. That it is imperative for the local school administrator to recognize the business elements of educational administration.
- V. That the business administration of a local school system center around the following eight fundamental divisions:
 1. The problem of local school support
 2. The organization and control of local school finances and business management
 3. Financial accounting
 4. Unit costs and unit accounting
 5. The school budget
 6. Property accounting
 7. Insurance
 8. School supply management

In the articles that are to follow specific problems of these major fields will be treated, including some data showing how successful administrators are trying to reach a satisfactory solution to these problems.

What Color Shall We Choose for the Schoolroom?

To attain the desired result in decoration, a study of color from the standpoint of psychology, vision, and utility is essential if the greatest success is to be realized

BY FABER BIRREN, CHICAGO

SCIENTIFIC and psychological investigations of color in the past few years have revealed much. New theories have been advanced that have greatly changed and extended our existing ideas and traditions. Today color is a recognized important quantity no longer considered solely for its decorative possibilities. It is receiving the care and attention that in truth it rightly deserves, for color is a primary stimulation that exerts a significant influence on child and adult, visually, emotionally, and mentally.

The Language of Color

Beyond the consideration of color preferences, the uses of red and blue as favored colors to create practical and profitable associations in the student mind, color speaks a language that is universally understood and appreciated. Briefly, green, blue, and violet are cold, and yellow, orange, and red are warm hues. Red is intense and associated with warmth and animation. Yellow is brilliant, stimulating, cheerful. Blue is cold, depressing when used in full clarity on large areas, and in the main is a hue that is rarely satisfactory unless considerably tinted. Orange is warm, exceedingly exciting, and exerts a stimulating effect depending on the degree of its intensity. Green is cheerful and refreshing—a hue associated with nature. Its influence may be quieting as well as mildly stimulating, as it is easily shifted toward blue or yellow without sacrificing any of its clarity. Gray is lacking in emotional appeal and is greatly neutral. It is passive, uninteresting, and cheerless. It is to be avoided unless mixed with color to modify its lack of personality.

These, in effect, are the appeals of color. Whether recognized consciously or unconsciously they, nevertheless, must be considered in any application of color if color is to be used in all its ability and authority.

There are, in the study of color for the schoolroom, three distinct applications: First, the psychological, already touched upon, involving emo-

tional and temperamental influences; second, the visual in which color is utilized having in mind its effect upon the eye; and third, the practical application, the actual measurement of paints, finishes, and textures.

Psychologically, color holds in the schoolroom the same tempting charm as the rural school with its open window looking out upon the brilliant vividness of nature. Sadly enough in the progress of school architecture, sanitation and the problems of illumination disregarded all element of personality. The schoolroom of a few years back with its relentless white or drab walls, its strict chasteness and monotony could not long exist. Colored paints are fully as sanitary as white paints. Colored pigments have light-reflecting qualities that are fully as desirable as white. And added to this, color itself is the one satisfactory and essential environment under which the student is enabled to relax and to accomplish his studies with utmost efficiency.

The modern trend of color in the schoolroom is commendable. Almost like an emotional emancipation, color has come to the foreground, to play its essential part in lending a desired atmosphere for mental concentration and temperamental relaxation.

A Study of Harmony

Thus we are led to the study of harmony, the various strategies of color and its use to best advantage. We can well be skeptical of any theories based on the trend of style. The appeal of color is unchangeable. Red is ever exhilarating and blue tranquilizing, and superficial ideas in decoration cannot change this condition. We experience certain emotions when we view certain colors, and our effort lies in determining the colors that will effect the desired emotional accompaniment. Our reds, yellows, and oranges exert an enlivening influence. Our greens, blues, and violets are subduing.

There are no laws of color harmony simply be-

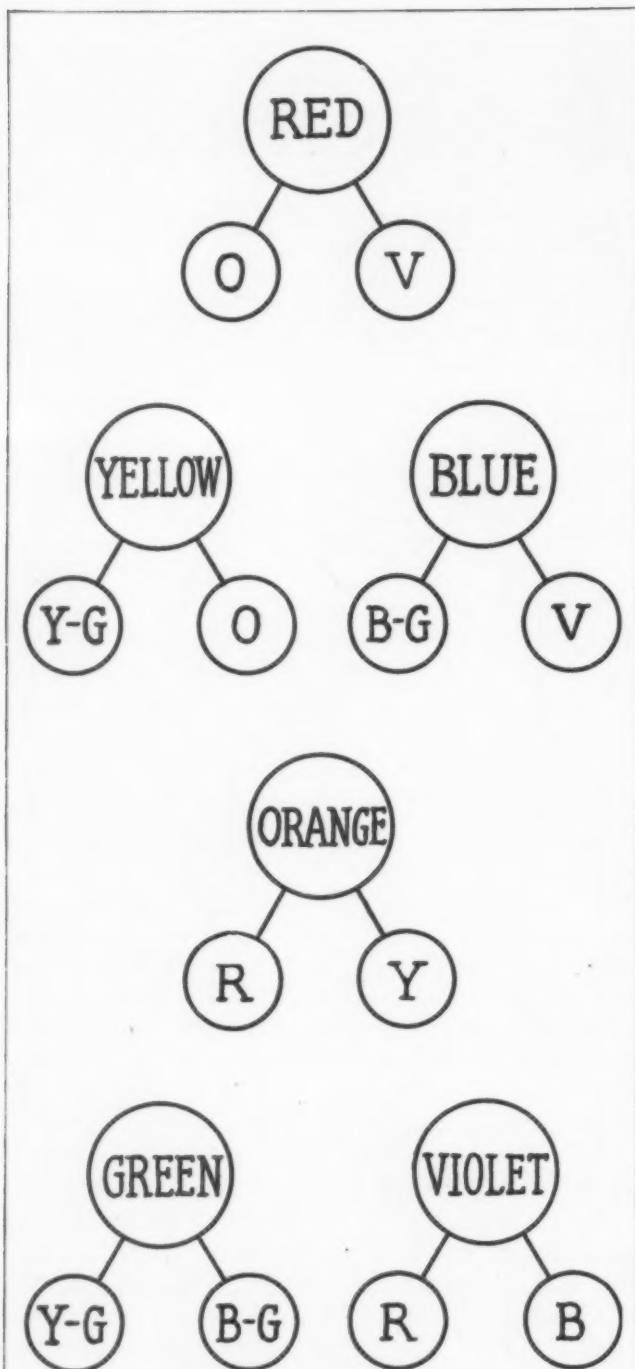


PLATE 1

Showing the analogy of colors. In all applications it is best to keep the hues approximately on the same level of value. Such effects as may be obtained by the above combinations, if carefully matched, will prove satisfactory. In each case it will be necessary to utilize judgment and perhaps make a few color samples before going ahead with the final application.

cause the emotions are too versatile to warrant any definite adherence to rules. Certain colors please, to be sure, but our endeavor is to fit our application to our particular needs and employ our hues scientifically as well as intelligently. There is no doubt but that the schoolroom should create a mildly active rather than a passive stimu-

lation. The student should be kept at attention, enlivened without being overstimulated. To accomplish this color should be employed, not monotonously, but wisely. To the ear an unwavering note if sounded constantly has a depressing influence. Similarly, to the eye a plain surface has its ill effects. Brilliant red may be stimulating, but pink if also used monotonously is equally undesirable. We must search for relief, more or less entertain the eye and offer it a varied exhilaration. Briefly, analogy is the most satisfactory means of attaining this end.

Analogous Adjacent

Plate 1 shows the analogy of color and provides an excellent basis on which to design our walls. If we select green, the addition of yellow-green or blue-green or both, will relieve the monotony of the single color without modifying its emotional influence. A delicate blue stippled with a delicate violet or blue-green remains blue. But we have killed the monotony that would attend visualization of the flat surface of blue alone.

A study of this plate will prove of value. Each hue is shown with its adjacents. Of course, in no case is pure color advised, except perhaps as occasional touches in the other furnishings that make up the room.

For relief we can introduce other hues into draperies, desks, and furnishings. In fact, small touches of pure color add interest. Yet we are cautioned against any great display of color. In the main the safest plan to follow is to fit the room in the one desired predominant hue, modified by its adjacents as explained on the chart. Then for purposes of relief, bits of complementary color may be judiciously contributed or perhaps omitted entirely to avoid any obvious distortion.

We cannot overemphasize this application of color through the use of analogous adjacents. Most unsuccessful examples of color effects can be traced to failure in limiting the number of colors employed. The eye is keen to take a dislike. It resents too great a conglomeration. Thus one color used with its adjacents is more sure to please, as such a combination presents an even gradation that lacks all contrast and fluctuation. Adjacents are deemed pleasing and rarely meet with disapproval. To keep this fact in mind will aid in attaining good results. Adjacents offer a practical method to follow, whether they be used in mottling a wall or in the furnishings meant to harmonize with it.

Our second important consideration of color is from the standpoint of vision. Retinal fatigue is to be considered. Briefly, dark and light masses should be eliminated as the eye when directed

upon one surface and then another must constantly adjust itself. An even, singular value should be maintained throughout the room. With this done the iris of the eye is not strained and the student does not experience many discomforting depressions. Let the room be colorful, but have the hues of approximate brightness. In other words, seek relief in contrasts of colors of even value and not in contrasts of light and dark.

Perhaps one of the greatest misunderstandings attendant upon the use of color lies in a neglect to avoid monotony. White is rejected apparently because of its glare. Brilliant color is avoided because of its intensity. The conclusion drawn from this observation is then likely to result in the selection of some flat tint—an impression that a mid-course alone will be satisfactory. We must never forget that the eye as well as the emotion demands relief.

Types of Wall Finishes

Plate 2 illustrates three successful types of wall finishes. The various processes explained result in interesting surfaces of no particular contour. This has a great advantage. Patterns and designs are troublesome, especially to the pupil who is forced to sit in the schoolroom many hours of the day. The mental strain of a conventional design will distress even the most controlled person.

For this reason the mottled wall effect has a soothing result that offers a mild stimulation. The eye is not troubled by pattern or blunt monotony. Application of any of the three methods will be found economical and easily accomplished by any decorator.

There is a curious observation in the study of color as related to materials. Old ideas of sanitation, for example, held to the illusion that brightness was preferable. Yet no one will dispute the fact that from the standpoint of cleanliness surface is more important than hue.

In teaching and instilling into the pupil mind the finer habits of order and cleanliness, brightness is an important factor. The child, when placed in an environment of color, not only responds emotionally but is inspired by association to keep this environment perfect, and not to permit disfigurement.

In flooring, as an outstanding case, too often a dark, drab hue is employed in order to lessen the notice of stains, dirt, and spots. But this is poor wisdom. When an effort is exerted to lend cheer in schoolroom decoration, and the walls, ceilings, and furnishings are made to be attractive, almost invariably the floor is like the peacock's feet—ugly—and contrasts strikingly with the general ideal effect.

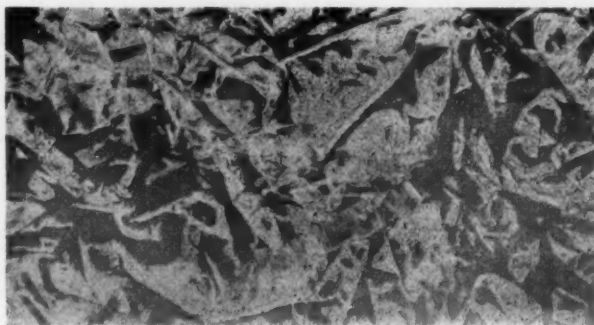
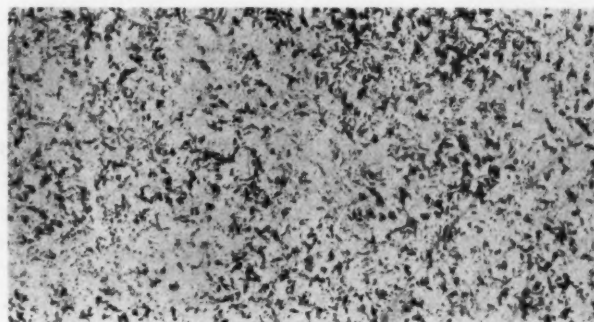


PLATE 2
Crumpled Roll Finish

Over the selected undercoat, which has been allowed to dry, a finishing coat to be rolled is applied.

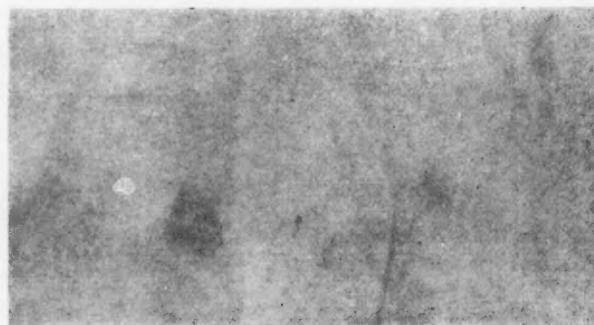
Against the wet finishing coat, a crumpled newspaper is firmly placed and rolled downward. This lifts some of the wet paint so that the undercoat shows through as above.



Sponge-Mottled Finish

After the selected undercoat is applied and allowed to dry, a little finishing color is poured on a board or other flat surface, and the flat side of the sponge pressed into it.

Then the flat side of the sponge is tamped against the wall resulting in the above effect.



Shaded Tiffany Finish

After the selected undercoat is dry a coat of flattening oil is applied. While the flattening oil is still wet, the glazing colors are put on in spots.

With a circular or figure eight motion the colors are blended together on the wet wall with a ball of lintless cloth, shading from dark at the bottom to light at the top.

The colors may be wiped out entirely in a few places to allow some of the undercoat color to show through. The work is then finished by tamping with a ball of cloth.

(Above specimens by National Lead Co., New York.)

In recent years there has been a commendable introduction of colored floorings both in composition and wood. In schools, wood flooring seems to have proved most satisfactory through experience. But as not all woods can be practically stained and colored, their use from an artistic standpoint has been much confined.

However, in such woods as maple, science has been able to stain permanently a large array of colors. Colored wood floors are now universally available. No doubt they will receive more attention as their merits are more generally made known.

Thus, even today the school may bring the benefits of color to every square inch of space. Colorful floors and appointments not only have important emotional appeals, but the associations of neatness, the unconscious desire instilled into the pupil's mind to maintain the charm of his surroundings, almost totally completes the large purpose of the diversified educational field.

Physical Considerations

Our third consideration centers around an actual study of the pigments to be employed, finishes, and textures. In the main, highly reflective surfaces are glaring and are harmful to the eye, causing retinal fatigue and mild cases of temporary blindness, especially when the eye is exposed to them for long periods of time. For this reason dull-finish paints are preferable. Further, good pigments should be used to assure a lasting freshness without dulling or fading. Good materials are always good economy.

If beauty is "more than skin deep," color and decoration should not be considered as things of surface alone. Metal lathings, well constructed furnishings, wood floorings—especially if colored—should have an endowment of permanence. A stained floor material, for example, if it were not excellently treated would soon present an ugly appearance and would destroy a proper association if its beauty wore away in spots. And the same applies to other appointments in the room.

Color should be presented, not only widely, but well. Its influence is permanent, and its presentation should have equally lasting virtues. In fact, there seems to be no better rule to follow than the old commercial platitude, "as cheap as quality affords."

In its appeal color is perhaps the most fundamental of all esthetic sensations. It is strongly associated with tradition and custom. It speaks a universal language and holds a primal appeal to all. Above architecture and design it represents a factor in beauty that has not as yet been technically exploited.

Making Requisitions

"In three-fourths of the cities the superintendent assists in the selection of textbooks, but in approximately one-half of them, the principal and classroom teacher assist. In nearly one-sixth of them the board of education assists in making the selection. Where more than one agency is responsible the superintendent, teachers, and principals, usually co-operate," asserts H. S. Ganders, commenting on personnel and organization in small city schools in *Bureau of Education Bulletin No. 6*.

He continues, "in the selection of supplies it is the prevailing tendency for the superintendent, and quite frequently the principal, to assist. In one-fourth of the cities a committee of the board is appointed to help with the selection. Original requisitions for supplies are made by the principal and classroom teacher in three-fifths of the cities concerned, and in one-half of them the janitor also makes requisitions. In one-tenth of them the superintendent makes the original requisition. In most places the requisitions are combined into formal requests for purchase of supplies by the superintendent; and the responsibility is almost evenly divided between the principal and the clerk of the board in the remainder.

"The superintendent usually represents the board in signing contracts with vendors. In nearly two-fifths of the cities, however, the secretary of the board or the clerk of the board signs such contracts. Purchase orders for supplies are authorized by the superintendent in most cases; in the remainder by the clerk of the board. In one-half of the cities the checking of supplies received from vendors is done by the superintendent, in nearly one-half by the secretary to the board, and occasionally by the principal.

"Supplies are distributed to individual schools in various ways. The most prevalent plan is shipment to individual schools by the vendor. Distribution by the storekeeper, superintendent, and superintendent's clerk are the other methods in common use, frequency of practice being denoted by the order in which they are named. The supervision of storing of supplies in the individual schools is usually done by the principal, but occasionally by the superintendent.

"Supplies other than textbooks are issued to teachers by the principal in two-thirds of the cities, the work being done in the other one-third almost equally by the principal's clerk and the janitor. Textbooks are usually issued to the teacher by the principal, but in ten per cent of the cities the superintendent issues them, in ten per cent the storekeeper, in five per cent the janitor, and in five per cent the superintendent's clerk."

Our Responsibility for the Pupils' Vision

Direct or indirect artificial lighting—which can be used to better advantage when considered from the standpoint of the pupils' comfort and visual well being

BY A. L. POWELL, HARRISON, NEW JERSEY

AN EDUCATIONAL system that permits eight to fifteen per cent of its children to acquire defective vision within the few years of their school lives has something radically wrong. The fact that eye troubles are more prevalent among children in the advanced grades indicates that this strain is increasing. In most cases, the child receives his first exacting eye work when he goes to school where, from necessity, a large quantity of printed and written mat-

ter is placed before him for his perusal.

It can, therefore, be easily understood how a child, born with normal vision, but forced to do detailed work, oftentimes under inadequate illumination, develops poor eyesight. It is essential to provide good illumination in the school so that those pupils with normal eyes may see properly and so that those with defective vision may do better work. Backwardness of many pupils, formerly ascribed to mental deficiency, often has



Shops and laboratories necessitate good illumination without glare



Libraries or study halls must be well lighted to avoid unnecessary eye strain.

been caused by defective vision. In this connection alone, proper lighting of the schoolroom is an economy as the cost of teaching the pupil forced to spend an extra year in school because of defective vision offsets any saving in lighting expenditure.

Artificial Lighting Often Inadequate

In the majority of schools, arrangements for daylight are satisfactory, but artificial lighting is frequently inadequate. Systems in use often consist of bare, clear, incandescent lamps, and when reflectors are used, units are frequently hung in such positions as to produce eyestrain. Again, intensity of illumination is often far too low and lighting proves to be a handicap.

Artificial lighting is necessary in schools to supplement daylight on cloudy and stormy days. The crowding of schools in the last few years has made night sessions a common practice that calls for good illumination if the student's vision is to be conserved.

With the unit of intensity of illumination the foot-candle, defined as the illumination on a surface normal to a one-candle-power source at a distance of one foot, the following table of light has been worked out for the school:

Classroom	8-12 foot-candles on desks
Study room . . .	10-12 foot-candles on desks
Office	10-12 foot-candles on desks
Cloak room . . .	1- 3 foot-candles on floor
Corridor	2- 5 foot-candles on floor
Laboratory	8-10 foot-candles on tables
Auditorium . . .	3- 6 foot-candles on floor
Drawing	15-25 foot-candles on tables

A distinction must be drawn between those classrooms that are used for clerical work, reading and writing, and those used for sewing, art-metal work, drafting, chemical experiments, and similar pursuits. The latter rooms should be illuminated to the higher values given in the tables. Fine needle work by young children should be done only in daylight.

Elimination of Glare Important

Elimination of glare in school lighting is most important as it is this factor that causes the greatest amount of eyestrain. When bright light sources are placed high above the head, as the noonday sun, the eyebrows protect the eyes, but indoors lights often must be hung low, thereby coming within the field of vision. This brilliancy can be reduced by diffusing globes, shades, or reflectors that either effectively enlarge the light

sources or actually hide them from view. Care should be taken, however, that over-diffusion or flat illumination does not occur as this condition is trying to the eyes.

Not only must light sources be considered in providing diffusion, but the walls and other objects must be given attention. Dull rather than polished surfaces are desirable, and even a polished or waxed finish is more desirable than varnished or highly polished surfaces on the desk and other furniture, as the latter produce mirror-like effects in reflecting the light sources. In this connection, attention should also be given to the desirability of mat rather than glossy finished paper, for paper with a glossy finish likewise reflects light in an annoying manner that is likewise dangerous to the eyes.

Light Distribution Extremes

Distribution of light has two extremes—local lighting and general illumination. In local lighting, relatively low candle-power light sources, located rather close to the work, furnish a high intensity of illumination over a small area. There is a tendency to use local lighting in drafting rooms, machine shops, and sewing rooms. The lamp is often under the control of the pupil who

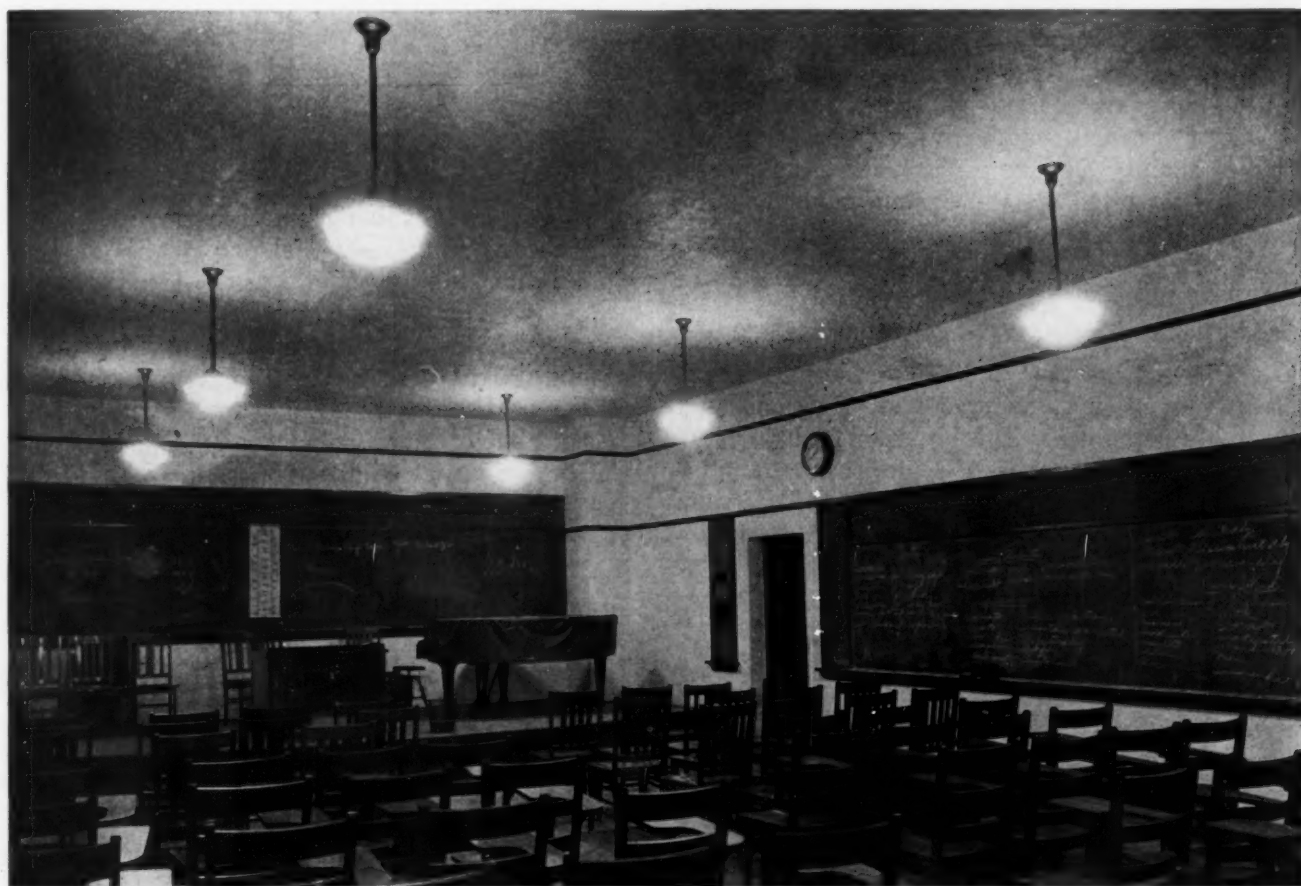
knows little of its proper use and often works in his shadow. Local lights often cause annoying glare to pupils at adjacent tables and drop cords are often tied back, constituting a dangerous practice.

This Is the Best System

In general illumination, much larger lamps, hung as high as possible and providing almost uniform lighting throughout the room, are used. This system simulates daylight and is best suited for schoolroom lighting. It has the advantage of a less expensive wiring, less danger from breakage of lamps, and produces less glare. No lighting unit should be hung below a line extended from the eye of a student in the rear seat to a point two feet above the blackboard.

Eliminating glare from blackboards will also aid in conserving the eyes of the pupil. To minimize glare, blackboards should have mat rather than polished surfaces. They should never be located between windows, as is most obvious when eyesight is considered.

Direct, semi-direct, and totally indirect systems are all employed in school lighting. Totally indirect lighting produces a very high quality of illumination, but requires a relatively large wat-



Adequate lighting in a large room where blackboard writing must be read

tage for a given intensity. With such a system, there is little possibility of glare and the light is soft and comfortable to work under. The inverted bowls, however, tend to accumulate dirt and unless cleaned frequently the light output is materially reduced.

Semi-indirect lighting is an intermediate practice, most of the light from the lamps being directed to the ceiling with a slight amount transmitted through the glassware. It is slightly more efficient than totally indirect lighting. The resultant illumination is well diffused and such shadows as are produced are soft and cause no annoyance. The best forms of semi-indirect units for school work employ dense glass or some other means of reducing brightness of the lighting unit.

In many of the older installations, open bottom, direct lighting units are used. Such a system is obviously efficient from the standpoint of light utilization, but the diffusion is not of the highest quality, shadows and contrasts are likely to be rather severe, and direct and reflected glare become serious, particularly if clear bulb lamps are employed. The use of this form of light is advisable only when costs must be kept at a minimum and when secondary consideration is given to the quality of illumination. When direct lighting is deemed advisable, dense opal or etched prismatic reflectors should be used. These transmit but a small portion of the light, and are, therefore, not very bright. The flat type reflectors should never be used in a schoolroom, for it is almost impossible to conceal the filament from view when using this style of shade. Opaque reflectors are, of course, generally unsuited, as the ceiling would be very dark when these are used.

Enclosing, Diffusing, Direct Lighting

In view of the above analysis, the enclosing, diffusing, direct lighting luminaire seems to be, at the present state of the art, the most generally applicable equipment for classroom lighting. If the proper type is chosen, a well diffused illumination quite free from direct or reflected glare is produced. Although the major portion of the light is directed downward, a considerable amount is transmitted upward, thus giving a cheerful appearance to the room and a character of illumination closely akin to that produced by semi-indirect units. Such equipment does not depreciate as rapidly with accumulation of dirt as do other fixtures producing the same general quality of illumination, yet cleaning should not be neglected.

Light colored walls and ceilings always aid in any system of illumination. Light on the ceiling is very desirable for when reflected downward it reduces contrasts and softens shadows. There-

fore, it is generally advisable to paint ceilings light tints regardless of type of lighting installed. Deep crevices in glass, though decorative, accumulate dust.

Part of the equipment of any school system interested in conserving vision is the small portable photometer known as the foot-candle meter, which measures illumination on desk, workbench, or table.

Adequate illumination in schools is vital to the health of the school child and will be a great step in preventing visual defect.

Nutrition and Growth

"If you measure a child, you have made a friend of him for life," says one experienced examiner; besides, you have interested him in his body and paved the way for interest in its preservation and healthy use and especially in the fueling of his bodily machine, the most important item in hygiene. Though he may be aware that he is inferior in size to other children of his age, he is also aware that he is growing, and that therefore he will (or should) increase or 'improve' in weight and height. It is this possibility of growth in which we are most interested. On account of the limitations of race and heredity, all children will not measure alike at a given age and cannot be brought to one average, even if placed under the same conditions of living. It is always possible, however, that a child much below or above the average height or weight for his age may be suffering from some disease or be handicapped by bad hygienic conditions, and such a child should receive especial care in his further examination and as to his habits. On the other hand, bulk in itself is not a criterion of health, and a child who is of average height and weight for his age may not be receiving the right kind of food and may show signs of malnutrition.

"An experienced school medical officer remarks: 'As there are no definite and reliable standards by which the various factors can be measured, the classification of the state of nutrition of a child will largely depend on the personal experience of the observer.' Teachers will hardly differ more than medical inspectors in their opinion as to the healthy or unhealthy appearance of a child, and that, rather than size, is what we are considering when we speak of nutrition. The teacher should keep underheight and underweight in mind, but more important are appearance of alertness or languor, of vigor or weakness, a clear or muddy eye, red or pale lips, a healthy or unhealthy skin."—Dr. J. F. Rogers, *Health Education Bulletin No. 18*.

Why Physical Examinations Help High-School Pupils

Better health means better scholars, and by systematic check-ups the discovery of latent defects is made possible and prompt attention may be given to early correction

BY FRANKLIN W. BARROWS, M.D., STATE DEPARTMENT OF EDUCATION, ALBANY, NEW YORK

THE AMERICAN high school, in all its history was never as high as it is today; high in its aims, high in promise of present and future worth, high in responsibility to the parents and their sons and daughters who are flocking to its doors in ever increasing numbers.

While it prepares thousands of its graduates for colleges and universities it gives to many more thousands their last opportunity to school themselves for citizenship, which means partnership with their elders in the life of the nation. Do we think of the high-school pupils as boys and girls, the children whom we released reluctantly from their home restraints and consigned to the care of the kindergarten eight or ten years ago? If we do, we cherish a fond fancy. They are now young men and women. Some of them are entering adolescence and some have nearly completed their adolescence. Most of them are facing the facts of manhood and womanhood. Let us then honor them by trying to adopt their own point of view, accepting them as junior partners in life, and not reminding them too forcibly of their inferiority to the ruling generation—meaning ourselves. And let us appreciate that they are looking out in some dismay mingled with eagerness on the muddle we have made of things; full of desire to take the reins of authority and set at rights a distressed and war weary world.

These are the young people who come up to the high school or to a university asking us for the most effective education that we can provide.

The High School Is Ambitious

The high-school pupil is a pragmatist and beneath his blithe and mildly cynical indifference to things in general there burns a strong and steady ambition to try his "prentice hand" in some high enterprise. He is looking forward not to a job but to a position, not to wages but to a salary, not to a living but to a fortune. He knows that the school should help him in a practical way to realize any worthy ambition, and he demands this

help at our hands. His demands are not always voiced clearly. He has an indefinite thirst for knowledge, indefinite because he has no means of measuring his own needs.

But we, who know his needs better than he, ought not to go far astray in diagnosing and supplying them. We know the significance of adolescence and we know how the high-school adolescent is circumstanced. We cannot plead ignorance of a subject that educators, physicians, and psychologists have been studying, exploiting, and explaining for a quarter century. We recognize adolescence as a developmental period throughout which the body and mind are susceptible to conditions and influences to which the life of the child has been but a prelude. Now, if ever, the potential man and woman are in the receptive mood, mentally and physically, for all knowledge pertaining to health. They are highly sensitive to somatic and psychic influences, especially those affecting the organs and functions that undergo their most rapid evolution during these years. Now is the right time for a hygiene course that shall be informing, satisfying, generous. This is just the course that many of our high schools, indeed a large majority, fail to provide.

Course Fails to Satisfy

The most perfect course in hygiene up to the end of the eighth grade fails to satisfy the legitimate demands of nine-tenths of the pupils in our secondary schools. The teacher who does not realize this fact is either obtuse or obstinate; and yet many of our high schools are even now trying to excuse their neglect of health service and health training on the plea that the lower grades have done enough in these lines and done it well enough for all the needs of all the coming years! They know better. They have, however, a host of other useful and cultural subjects in their curriculums quite indispensable, and calculated to lead the thought of the student away from the necessity of caring for his body while his preceptors are en-

gaged in the diverting game of passing the buck to parents, pastors, physicians, movies, newspapers, works of fiction, and divers and sundry worldly-wise exponents of "real life."

Now what do our young men and women want the high school to teach them as a continuation of their elementary courses in hygiene? They want information on personal hygiene that they can make use of; more knowledge of the human organs and functions; more human biology; hygiene of the various organs; habit; health habits; health control; some psychology; mind and its workings; how to keep a sound mind and body; care of the brain; disease prevention, causes and cures; sex problems and sex hygiene; venereal diseases; social problems; heredity; exercise and rest; posture; prevention of colds; knowledge of use in epidemics; cleanliness; housing; eugenics; the feeble minded; prohibition; the skeleton; health of occupation; current health topics; first aid; home nursing; care of children; and many others of a similar nature.

How do we know that our high-school pupils want this knowledge? We have asked them and they have replied candidly, plainly, and often emphatically. Which of these topics, selected at random from a large list of requests, was chosen by the greatest number of students? It was heredity, named by one-fifth of the students. Sex problems and sex hygiene stood second on the list.

The Demands Must Be Met

Let us meet these demands and meet them now. Our young people are in no mood to forgive or to forget our neglect if we fail to share with them our knowledge of all the problems vitally affecting manhood and womanhood. They want facts and will have them some way. Behind their bold, free, reckless demeanor there is a deal of serious thinking and planning. If we fail to fit them for wholesome, healthy living, if we meet their wildness with an imperative Don't, the colleges will soon take them in hand and disclose to them our short-sighted neglect of health guidance. Those who do not go to college will be caught in the wave of popular enthusiasm for health, and the thoughtful ones will be inquiring, in ten years or less: "What were the high schools thinking of when we asked for bread and they gave us stones—and 'bones and blood' in place of health?" Their demands show more brightness and zest than many of their teachers can muster today. Shall they have no voice in the program? It cannot be taught in a term or a year, even on the "intensive" plan. It must begin with the first week of high school and endure to the last week of the same. Less than this is unworthy of the school that prepares

Americans for life. Do not leave it to the colleges. How many of our high-school entrants continue their schooling through college? The high school must give a liberal preparation for life, or leave it to the health department—which? What did we do for our boys and girls in our army training schools and camps? Can we do less in preparing our youths for citizenship? What do they do in West Point and Annapolis? Are our soldiers and sailors more precious than our future fathers, mothers, rulers?

Elective Subjects

In the foregoing paragraphs we have allowed the pupil himself to pick the subject for a high-school course in hygiene. As might be expected his electives do not quite meet his needs. Community hygiene, or public health and sanitation, is a big subject that he has almost overlooked in his desire to know more about himself and his personal problems. His relations to posterity, to the generation for which he is to become personally responsible, have not yet engaged much of his attention. The outstanding fact emphasized by this group of electives is the consciousness in the adolescent man and woman of a need that can be supplied only by extending and broadening the knowledge of self and of the individuals coming into various relationships with the self. In brief, the ruling desire of early adolescence is summed up in the old imperative, "Know thyself." Is it possible that with a realizing sense of rapid growth and expansion of the body and its activities there comes to the youth now and then a haunting dread of failure to make the necessary adjustments in passing on into manhood and womanhood? We merely suggest this possibility; but now let us look at the facts.

The official report of the U. S. Census for 1920 presents the following mortality statistics:

Birth to fifth year, 217.4 deaths per 1,000.

Fifth to ninth year, 23.7 deaths per 1,000.

Tenth to fourteenth year, 17.0 deaths per 1,000.

Fifteenth to nineteenth year, 27.4 deaths per 1,000.

Twentieth to twenty-fourth year, 38.4 deaths per 1,000.

This table shows that the death rate declines eighty-nine per cent during the second five years of life, twenty-eight per cent during the third five years, while in the first half of adolescence it increases sixty-one per cent and in the second half forty per cent.

Adolescence is a season of great expectations but these figures tell us plainly that it is also a season of physical hazard, characterized by a con-

siderable loss of stamina. Indeed the annals of our schools and colleges record the names of many promising young men and women for whom the high-school or college course turned out to be literally a fool's errand because their health of body and mind was not protected by wise safeguards and restrictions. The modern school or college that does not maintain a reliable and generous health service for all its students is not giving them a square deal; is not preparing them for their future needs.

We are now ready to consider the content of a course in hygiene for our high schools. For many reasons it would be mere presumption on our part to arrange this material in a formal syllabus. To begin with, there is no standardized syllabus for the first seven or eight grades, whereas we regard it essential that the elements of hygiene should be taught from the beginning to the end of the elementary school course. This duty is admirably performed in many schools and woefully bungled in others. The high school must begin somewhere, but in case of many pupils the high school has no warrant that it is beginning where the lower schools have left off. As to the order and arrangement of the components of the high school course, one would have to know the place of general sciences, physics, chemistry, biology, and other subjects in the curriculum to the end that the hygiene class might utilize these allied sciences most helpfully. We must, therefore, content ourselves by merely suggesting an arrangement of the hygiene course, subject to such changes as are found necessary to adjust it to the school curriculum and program.

New Hygiene a System of Training

The high school needs the new hygiene. The new hygiene is pragmatic and dynamic, a practical application of Don Quixote's maxim, "It is good to live and learn." It is learning based on living and translated into better living. It is more than a "branch of learning;" it is a system of training—training of the will, motivated by the actual experiences of regular, periodical examinations of the body and its functions. Without this examination, essentially a medical procedure, at least once a year, the new hygiene is flat and sterile. Thanks to the growing popularity of medical inspection in our elementary schools, many of the high-school pupils have already had the benefit of these physical examinations and the correction or treatment of defects. As we have shown in a previous paragraph there is every reason for continuing this personal service throughout the high school and making it a basis for individual health instruction and counsel as well as for the more

formal work of the classroom. A high school without thorough and regular medical examinations is a school deprived of one of its greatest opportunities for service.

The new hygiene has come like an inspiration into many of the elementary schools and is rapidly winning its way as a feature of our educational system. By its influence children from the kindergarten to the eighth grade are learning and practicing, with the meticulous attention characteristic of childhood, the health habits that formulate for them the teachings of the classroom. The high school needs to fix these health habits firmly into the routine of life, and to add to them new and extremely significant habits that appeal to the adolescent mind only, and right here the medical examination lends itself to the conscientious practice of wholesome living and a reliance on trustworthy authority relative to vexing problems. Dr Ray L. Wilbur, formerly president of the American Medical Association, has said, "This periodic health examination is an attempt to bring expert management into the daily life and conduct of the human machine." — (*Journal of the American Medical Association*, Mar. 22, 1924, p. 976.)

Make Defect Correction Mandatory

The sooner the high-school pupil realizes and accepts this principle the better progress he will make in the establishment of rational habits of living and the prevention of incipient disease and disability. If the health examination brings to light any physical defect, as it certainly will in many cases, the examiner will counsel suitable treatment and the young man or woman will face the responsibility of seeking expert advice and care or ignoring the warning. In some high schools that we might name, pupils are refused promotion and even denied the privilege of graduation until they have sought and received treatment for known defects. This attitude of the school authorities raises hygiene to the dignity of a major subject, gives the physician's advice the force of a mandate, and confers a lasting favor on the opinionated youth who takes his physical troubles too lightly. Indeed the high-school pupil who has learned during his four years the great strategic value of the annual physical examination and follow-up, has gained something of more worth than all the hygiene lessons of all the schools could confer upon him. Therefore, we regard the annual medical examination as the energizer of the whole health course since it concretely ties up all the previous lessons.

It is fortunate for the children in our elementary schools that their teachers are giving them a "positive" rather than negative, hygiene, i. e.,

they are teaching health and not disease. It is a mistake to bother the youngsters with pathology when there are so many cheerful things for them to know about themselves and so many good habits for them to acquire. They are too immature to be confronted with dark mysteries though they do glimpse them occasionally when they have teeth or tonsils or other bothersome organs that have to be doctored or removed for the sake of peace. On the other hand, the adolescent pupil is not to be satisfied with an education that feeds him on goodies and hides from his view all the bitterness of life. He needs warning mingled with encouragement and optimism. He is ready for a science of health that shall make him "wise unto salvation" from the follies, frailties, and diseases that, like opportunity, are waiting for him just around the corner when the guiding hand of the instructor has been withdrawn.

Review Previous Knowledge

It would be well, therefore, to begin the high-school course in hygiene by reviewing the stock of knowledge gained in the previous eight years. In this review special care should be exercised to teach enough anatomy and physiology to form a logical basis for the health instruction. Technical details and scientific terms should be taught very sparingly. The school is not trying to make anatomists or physiological chemists. It is trying to teach intelligent adolescents how to engineer the machinery of their bodies. They will have to know something about the structure of their organs and how they work. How much of this they must know it is the province of a wise teacher to make the decision.

Before this review is over the students should be initiated into the secrets of a few of the common weaknesses and diseases to which they are subject, and taught how to live in order, if possible, to avoid them. While studying the skeleton and muscles, for instance, they should learn something about sprains, dislocations, injuries to the muscles from straining and over-exertion, and something about "rheumatisms." The indispensable value of x-rays in diagnosing obscure injuries should be impressed on their minds. The proper use as well as the abuse of physical exercise can best be taught in this connection. In like manner certain diseases and disorders should be briefly considered along with the study of the organs affected. The list should include common colds, pneumonia, pleurisy, tuberculosis, pyorrhea, dental caries, indigestion, constipation, heart strain, hardening of the arteries, albuminuria, diabetes, cancer, and commonest communicable diseases not included previously. It may suit the instructor to

group all the communicable diseases as a separate topic.

The idea is not to make diagnosticians of these budding hygienists, not to teach treatment, not on any account whatever to suggest drugs or sedatives or stimulants—merely to give in the simplest terms enough information to indicate the nature of these conditions, the chances of avoiding them, and the necessity of competent service in the event of their occurrence. The folly of a self-made diagnosis and its common sequel, self-medication, can be pointed out very plainly, and the class should be enlightened as to the use of their brains in selecting competent physicians and reliable pharmacists.

In this general review hygiene is to be exalted as the natural fruit of a genuine acquaintance with the body and its workings. Two topics should receive particular attention to make amends for their neglect in the lower grades: Nutrition, and reproduction, with its cognate, endocrinology. Thus the consideration of the body as a mechanism, and hygiene as a personal concern, will have been given what time the school can spare, and the young men and women will be ready to look away from themselves toward some of the broader aspects of healthy living. It is high time for scientific, systematic altruism.

A Period of Orientation

The student should now begin to set in order and unify such notions as he may have formed, together with much new material, on the broad subject of group hygiene: The family, community, state, nation, leading up to the hygiene of international relationships. Under these headings he applies hygiene to the regulation of home, school, public buildings, hospital, parks, streets, transportation, water supplies, sewerage, factories, farms, mines, and a host of other institutions. He tests the validity of his new information by the criteria of personal hygiene and meets with great generalizations formulated by boards of health and public welfare organizations. He realizes the value of vital statistics and shares the ambition of all good citizens to make his own home and community conform to the highest attainable standards of sanitation.

Many high schools are studying diligently the reports and bulletins issued by their local health departments and comparing them with like publications of other communities and states and the well edited reports and communications issuing from several of our federal bureaus. Of current literature, official and authentic, on public health and sanitation there seems to be no end. Furthermore, there is no better material available for

use in bringing the schools into intimate sympathy with the business of our civic, state, and national institutions. And yet the consideration of this whole matter can be reduced to a few basic principles, making less of a job for the school than one would imagine from the mere sketch here presented.

Much of this work is closely correlated with civics, biology, and domestic science, which may relieve the hygiene teacher of considerable responsibility.

Courses in safety first and home nursing are conducted in some schools outside of the hygiene course, while other schools will include them with hygiene. The same is true of first aid and emergency courses, which, by the way, are vastly overdone in many secondary schools. Such courses should be reduced to a small number of precepts and demonstrations lest the student be led to assume responsibilities utterly beyond his comprehension and illustrate Pope's dictum, "A little learning is a dangerous thing."

Many of our best high schools find it worth while to devote a few hours to the hygiene of the worker—a short study of occupational hygiene. This includes a consideration of various vocations from the health point of view, and a strict exposition of the qualities desirable in an applicant for a position. It could well form a part of the personal hygiene assignment, for the benefit of students who might drop out of the high school early in their course, thus preparing them for situations they may meet.

Study of Mental Hygiene

The last high school year is the logical time for the study of mental hygiene, its relation to individual efficiency, fatigue, the use of leisure, the prevention of nervous and mental asthenia, and such other related problems as time and facilities permit.

The subject usually presented last, if at all, in the high-school hygiene course is race hygiene, or social hygiene. Dr. Bigelow defines it as "those social-health problems which, directly and indirectly, have grown out of the sex instinct." (*Journal of Social Hygiene*, Vol. X, No. 1, January, 1924.) Some of our influential educators say this subject is so far outside the range of general hygiene that the school has no business with it in any form.

We would ask these objectors, Are the young people in our high schools likely to become parents later on or are they not? If they are, why should we teach them an emasculated physiology and hygiene? To whom shall they apply for information on parenthood and its problems? What agencies

within reach of them all are making any effort whatever to enlighten them on these fundamental concerns of life and health?

Our morning papers do not scruple to supply the breakfast table with front page details of vulgar and questionable "romances" unearthed in our criminal courts and enlivened by columns of phosphorescent rot on love nests and love babies, while of sane and serious material on the ruling passion at the source of this lurid stuff the editor and all his talented assistants give us not a single word!

Why Avoid Sex Hygiene?

Too many of our young women, some of them scarcely out of school, bring forth their first born in ignorance, dread, and apprehension, knowing little or nothing of the functions of motherhood, its dangers or its compensations. The home, the church, and the school, in this intelligent age, do less to prepare them for the responsibilities of propagation than the stockbreeder is doing for his sows and his mares. Is this training too vulgar to receive notice in our schools for adolescents or is it too sacred a matter for a common school to touch? We are speaking plainly but well within the limits of truth to those objectors who fear to teach the plain truth on the most neglected social problem in our schools today. There is no high school in our land, unable to deal with this matter itself, that cannot find available some man to teach one lesson or more of this course to the young men and some woman to do the same for the young women. As for the rest of the lessons, it is within the province of the school nurse, health teacher, or any other well informed teacher to present them to a mixed class, if it be found inconvenient to teach the sexes separately. Of course it should be done with all discretion but it should be done.

The syllabus should include in part: Reproduction, development from birth through adolescence, parenthood and child care, artificial selection, heredity, Mendel's law, feeble mindedness, race poisons, social health and disease (without emphasis on disease), and the sanctity of the family. Such subjects should give ample information.

Some of those who pursue this outline of a high-school course in hygiene will ask: Can it be done? Can we do it?

The answer depends on what your high school is for. Some of our high schools are giving the course to the last detail. It should not be slighted if you wish your hygiene teaching to eventuate in conduct. We are dealing with knowledge of life, and, as Huxley said: "The great end of life is not knowledge but action."

The NATION'S SCHOOLS

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Editorials

Salutatory

THOSE who are interested in education frequently speak of the present era as one of educational research. Every phase of education is being studied experimentally. Psychological laboratories are being devoted largely to the investigation of problems relating to the mental development and welfare of children, the outcome of instruction in every kind of subject matter, and the bearing of school heating, lighting, and equipment upon health and efficiency in mental work. America is leading in this comparatively new activity. Educators are coming to our country from the progressive countries of the Old World in order to observe at first hand what is going on among us in educational research. Literally thousands of men and women in all sections of the country are applying scientific methods to the investigation of the hygiene of instruction, efficiency in the administration and management of schools, and the training and discipline of pupils. Great endowment associations are co-operating with individuals, communities, and states in promoting this significant work in educational investigation.

The Need of Interpretation

During the past decade or so there has been greater activity in the investigation of educational problems than in interpreting and applying the data for the guidance of those who are directly responsible for the physical, mental, and moral progress and welfare of the young. There have been so many problems to be studied that those who have been investigating them have had neither time nor energy to suggest how the facts they have been obtaining should be taken advantage of by those who organize and administer schools and who are actually in contact with pupils in the classroom. There has been no lack of means in the way of special magazines, technical pamphlets, and books for presenting the results and methods of research for the information of research workers themselves. But there has been a lack of agencies for interpreting and applying what investigators have been gaining so that superintendents, principals, and teachers might utilize the benefits thereof in their teaching and in building, equipping, and managing schools.

Leaders in our national life, alike in education and in other departments, are now calling atten-

tion to the need of interpretation and application of data derived from scientific investigation for guidance in the affairs of daily life. The need is certainly as imperative in the educational as in any other field. The results of important research have usually been entombed in formidable publications so that the superintendent, principal, and teacher who are busy with the actual work of conducting schools and teaching children have been gaining little or no help from much of the investigation that has been taking place in our country during the past decade or more.

The NATION'S SCHOOLS will discuss every important matter affecting the physical, intellectual, social, and moral training and welfare of the young. Particular attention will be given to phases of educational work that have been and still are more or less ignored by existing publications. School buildings, school equipment, the hygiene of daily programs, the conservation of the health of the teacher as well as of pupils, physical education adapted to changing conditions in American life, vocational guidance based upon accurate analysis of a pupil's natural abilities and social status, the adaptation of educational work to the needs of the new times—these and other problems of similar character are indicative of the field that will be covered by The NATION'S SCHOOLS. The aim that will be kept constantly in view in the editorial policy of the magazine will be to interpret and apply what is being revealed by research any place in the world for those who are responsible for the construction, equipment, and administration of the schools as well as for those who are in actual contact with the pupils in the classroom.

Calendar Reform and Schools

THE proposed revision of the present Gregorian Calendar to one of thirteen months of twenty-eight days each should be of interest to school executives as well as to vital statisticians and to governmental, business, and financial groups. Interest in the adoption of "the fixed calendar" has been growing for many years, the idea having been intelligently sponsored by the International Fixed Calendar League. More recently this proposed reform has been actively furthered by the League of Nations, and such substantial progress has been made that it is possible and even probable there will be a new calendar in effect throughout the civilized world as early as 1933.

The plan proposed is simplicity itself; thirteen months of twenty-eight days, an extra month to be inserted between June and July. This ac-

counts for 364 of the year's days. Since the year 1933 will begin and end with Sunday, the last day of that and all future years shall be an International day of Rest named "Yearday" and included as an eighth day ending that fifty-second week. In Leap-years, "Leap-day" shall similarly be an extra Sabbath Day of Rest ending the last week of June.

The desirability and practicability of such a system are apparent. Under it the days of the week would throughout the year and for all time fall on fixed days of the month. For example, all Sundays would fall either on the first, eighth, fifteenth, or twenty-second of the month; each month would consist of exactly four weeks; the quarters of the year would all contain the same number of days; pay days would recur on the same day of the month; holidays and other permanent dates would always fall on the same week day; every month would begin on Sunday and end on Saturday; anything that has to do with the calendar would be assisted by it.

Recently, the editor of The NATION'S SCHOOLS discussed this subject with Dr. M. B. Cotsworth, Director, International Fixed Calendar League, and expert to the League of Nations Committee on Calendar Reform, who briefly summarized why school authorities need a simpler calendar, as follows:

1. Months are unequal, varying twenty-eight, twenty-nine, thirty, and thirty-one days in length.
2. Their day-names change to different dates in every following month, causing such confusion that no one knows what a month really is.
3. Easter and other holidays change to different dates in every following year, erratically shortening and lengthening terms for beginning and ending school periods.
4. Those yearly changes cause difficulties in arranging schedules for teaching in all grades and in all classes of schools, colleges, etc.
5. Those awkward changes have caused some colleges to ignore Easter and other ecclesiastical holidays, locating Spring Terms to begin and end on different dates from schools that younger children are attending, while elder brothers and sisters are at college. These conflicting dates caused by the calendar's defects bring difficulties and loss of time in arranging family vacations and public affairs.
6. The fact of each following year beginning on a different day of the week, drifts the commencement dates seven days back and forth, causing a further difference in lengths of terms and curricula.

The advocates of this simplified calendar anticipate that its general adoption will come about

through an international conference of government representatives from all nations approving and accepting calendar reform in much the same manner that the present method of reckoning Universal Time was established through the International Conference held in Washington, D. C. in 1883.

The *Bete Noire* of the School Superintendent

THE announcement that Superintendent McAndrew has been dismissed by the board of education appointed by Mayor Thompson of Chicago is disheartening to all educational people. The educational situation in Chicago has never been satisfactory. The superintendents have not been free to administer the schools for the best interests of the children of the city. The politicians have always been on the alert to get the schools in their clutches. One after another of the superintendents in that city has thought that he could ride out the political storm, even though he had been warned by his friends that unless he played a political game, his professional head would be chopped off sooner or later. What has happened to Superintendent McAndrew has happened to all of his predecessors—he has defied the political bosses of the city in the interests of the school children and his career in the city has been brought to an end before he has been able to accomplish the objectives toward which he has been striving.

Superintendent McAndrew was working according to plans that would have given Chicago a modern system of schools. He was resisting influences that were aiming to exploit the teachers and pupils of the city for political gain. He is a leader of men and a courageous and skillful combatant on behalf of an efficient educational régime; but he has lost in the struggle, which means that no superintendent can win out in Chicago in the long run, unless the people rise up in anger and declare that the superintendent, the teachers, and the principals of the city must not be made the prey of unscrupulous and greedy politicians.

Taking the country as a whole, matters are growing slowly better rather than worse, so far as political manipulation of schools is concerned. There are superintendents in a number of places who can devote their time, their energy, and their professional acumen and experience to the advancement of education in their respective communities without any fear that the politicians will interfere with their work. In such communities, and there is an increasing number of them, the

educational atmosphere is always more healthful and invigorating than it is in communities in which the superintendent and his associates never know when the ax may fall, so that they have to be constantly on the *qui vive* in order to avoid decapitation. Of all great cities of the country, Chicago is the most discouraging in respect to the freedom of the schools from malicious interference by individuals and forces that do not have at heart the welfare of the children of the city.

Ideals Are Going Out of Fashion

RECENTLY a certain high school was being looked over by a committee of university men with a view to deciding whether it should be placed on their accredited list. Classes in history, English literature, biology, and psychology, among other classes, were inspected. One group of students was discussing the colonial period in American history. The whole hour was devoted to what might be called an exposé of the seamy side of life of two of our national idols. These two one-time dignitaries were painted in pretty dark colors. They had very little character left after the teacher in that class got through with them. The pupils were quite delighted to learn that these men, who were supposed to be models of good behavior, were really pretty wild fellows.

A group of senior students was discussing the "unconscious" in a class in psychology. The teacher was what is known as a Freudian. The class had for several days been discussing the subject of the hour. The pupils had been led by the teacher to take the point of view that all of us are dominated by impulses and passions which have to be given considerable rein or else they will make life intolerable for us. The teacher cited supposed cases of nervous and mental breakup because the great urges of life were utterly repressed. "In order to keep balanced and sane," he said, "we have to unclamp. Those who hold in everlastingly get to be freaks or nervous wrecks." The pupils seemed quite ready to agree with their instructor. The impression a visitor got by listening in during the hour was that anyone would be foolish to inhibit most of his impulses. It may be that before this course is finished the instructor will lead the pupils to take a different view of the need of self-restraint, but there was nothing said during this hour that would induce any pupil to think that inhibition of elemental urges was necessary or desirable.

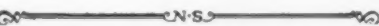
During the day there was a period devoted to "assembly." A speaker had been invited and he

talked to all the pupils in the high school on the subject "Why We Behave Like Human Beings," taking his title from a book that has recently gained considerable popularity. The speaker presented the idea that man is nine-tenths animal, the remaining one-tenth makes us seem to be like human beings, but it takes very little to cause most of us to give way to our animal inheritance. The idea he must have left with his young audience was that there is nothing much in human nature to brag about. "Scratch the surface," said the lecturer, "and you find animal traits and appetites."

The visitors didn't hear a word spoken in that school during the entire day which suggested in the slightest degree anything idealistic. It would not have been fashionable to have talked about ideals in any class because that school is strictly "modern." One expects this sort of thing in most of the universities these days, but he cannot help but be disappointed when he finds that cynicism of the times is getting into the high schools too. Is it possible that we are incessantly hunting for the worst in human nature and playing it up to students in the colleges and pupils in the high schools?

One of the visitors ventured to say to the teacher of psychology that man has developed a long distance from his animal ancestry and along the route he has acquired some ideals even though his animal impulses have trailed along with him; and would it not be true to fact to have pupils understand that man is as much human probably as he is animal, and that he is trying to live on a plane that will keep his animal inheritance under control? But the teacher took the point of view that such talk was more or less "mushy."

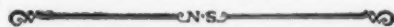
If anyone ventures to talk about idealistic things in most of the colleges to-day, the sophisticated students tend to close-up on him and dismiss the matter by calling it "applesauce." We are certainly entering, if we are not already in, an age of cynicism regarding idealistic conceptions of human nature and the objectives of human life.



Instruction By Radio

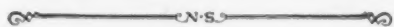
INSTRUCTION by radio is being extended throughout the country. A number of educational institutions report that plans have either been perfected or are under consideration for the conduct of courses by radio. Germany is apparently going farther than America in radio instruction. The University of Jena has established a radio workingmen's school for the purpose of training skilled workers in the various industries

and commercial pursuits by means of radio instruction. Young workers throughout the country will enroll in a four-year course of instruction to be conducted by radio from Jena. Plans have been perfected to radio-cast instruction in mathematics, chemistry, physics, commercial and technical subjects, and modern languages. It is planned to organize classes, the members of which will meet together in a hall in which the state will establish the necessary apparatus for radio instruction. This experiment will be watched with great interest by educational people throughout the world. If it proves to be possible for students to assimilate radio-cast instruction as readily and accurately as classroom instruction, it will mean that universities everywhere will become radio-casting centers for the dissemination of knowledge to students who may never see the campus of the university in which they are enrolled or the features of the instructors who teach them.



International Friendship in Education

IT IS announced that groups of foreign educators will spend next summer in our country inspecting our schools and colleges. There are now students from most of the European and Oriental countries studying in the leading colleges and universities here. The beneficial effects of this movement cannot be overestimated. Our people are going to foreign countries to study educational work and are bringing back encouraging accounts of the attitude of European and Oriental peoples and their forward-looking tendencies. It is practically impossible to get unbiased accounts in the public press of what the people in foreign countries are thinking or what they are hoping to achieve in their national life; but educational people are more successful than politicians and statesmen, so called, in holding their prejudices in check and seeing things with an eye single to the truth. No more significant event for the promotion of friendliness among the nations of the world has occurred than the establishment of an Institute of International Education in Teachers College, Columbia University. The Institute is fostering the interchange of students and teachers between the progressive countries of the world.



Books for Country Children

HAPPILY the movement to provide libraries within the reach of people who live in rural sections is developing with great momentum. The county libraries that are being established in a number of the states will make it pos-

sible for country people, adults as well as children, to have access to good books. It is more important that rural districts should be provided with library facilities than that cities should be, because people living in cities have the theater, motion pictures, university extension, and other facilities for entertainment, relaxation, and intellectual improvement, while rural people have few, if any, of these advantages. Large funds have heretofore been appropriated for the increase of libraries for urban centers, and it is time now that states should divert a considerable part of the money available for libraries into the development of the county library system, to the end that anyone who lives on a farm or in a small village may be within reach of books adapted to his age, his interests, and his educational and vocational needs. It would promote the well-being of any state if only minor extensions of library facilities should be made in cities until every county is supplied with a library and with means of distributing books, so that whenever a child or an adult in the country had leisure for reading he could quickly secure a book or magazine suitable to his tastes and needs and not be handicapped because of his rural residence.

No Age Limit in Mental Growth

SURELY some readers can remember the time when it was thought that when one reached the age of twenty-two or twenty-three at the latest, he could no longer make any headway in learning anything new. A few years ago, the psychologists taught that the mind got its permanent set by the time physical maturity was reached, so that no important change could be produced in it thereafter. But now we have the results of tests which show that adults can learn very rapidly up to the age of fifty and probably later. They can make more rapid progress in certain fields after twenty-one than before. We are warranted in saying now that there really is no age limit to the ability to learn. Even if we had no experimental data bearing upon the matter, conclusive testimony could be given by those who conduct classes in the summer sessions of the universities. During the past decade there has been a constantly increasing proportion of gray-haired men and women who have successfully completed courses in every department in the summer sessions of the universities. These older students are apparently just as plastic and certainly more eager to master knowledge than university undergraduates. Gray-haired students are more positive in their views than youngsters; but this is not due to mental rigidity so much as it is to conviction

developed by experience with concrete situations in the world. The older students are no more prejudiced than the younger students; their prejudices simply run in different directions. College undergraduates in these times are just as biased in favor of free thinking and free acting as gray-haired students are in favor of respect for conventions, both in their thinking and in their behavior.

Equality in Educational Opportunity

SOME people will never agree to the proposition that children who live in impoverished communities should have as good educational opportunities as those who live in more favored sections. But the conviction is spreading that in the long run it will benefit a state or county if the wealthy sections help to provide educational facilities for communities that are unable, by their own efforts, to support educational work up to a reasonable standard. Many of the states of the Union have recently established equalization funds. In a few of them these funds are adequate to assist weak communities to maintain as good schools with as capable teachers as are found in any community. This writer has just participated in conferences in a state in which the principle of equality of educational opportunity is being put into effect, and children in financially backward localities who have not had opportunities for a modern education will hereafter be as well cared for in respect to school buildings, equipment, and competent teachers as are the children in the prosperous cities. Nothing can stop the movement now to distribute the educational resources of a county or a state or the Nation so that some children will not enjoy practically unlimited facilities for modern education while other children are receiving only the rudimentary necessities of an education.

The Boston Meeting

IT IS hardly necessary to urge attendance at the meetings of the N. E. A. Department of Superintendence and from reports coming from Boston the attendance this year will be unusually large, yet it is well to remind those who may have some little hesitancy about attending the meeting that the benefits derived will outbalance the time, effort, and money, that will be expended. As will be seen from the tentative programs appearing on page 83 of this issue a great deal of thought has been given toward making this year's convention most outstanding in every possible way.

Considering the Benefits of Sabbatical Leave

Methods as practiced in several cities as to frequency, length of leave, percentage of pay—how teachers spend their time and what they gain by a septennial leave

BY W. F. WEBSTER, SUPERINTENDENT OF SCHOOLS, MINNEAPOLIS

EDUCATION is the greatest business of any nation to-day. Among civilized peoples no other enterprise rivals it, either in money expended or in persons engaged. Twenty-five millions of children and youth, led by 800,000 teachers, supported by \$2,000,000,000 a year measure the extent of the undertaking. Had a traveler visited northern France or Merry England 500 years ago, he might have written in his dairy: "Everywhere I have been amazed by the great crowds of workers—hewers of wood, cutters of stone, shapers of iron and brass; and within veritable forests of poles, cathedrals rise to testify to the peoples' enthusiasm for religion." It may be that a diary is now being written by some stranger, and his record may some day be read: "Everywhere I went throughout the whole of that prosperous country, great schoolhouses, marvelously equipped with everything that can contribute to the completest life of all the people, were rising to show a nation's confidence in education. In the streets of the cities thousands of children can be heard laughing and shouting on their way to school; while in the country every morning the roads are lined with boys and girls carrying their books and lunches to the schoolhouse at the crossroads. The twentieth century in America is the age of schools, as the fifteenth century had been the age of cathedrals."

The Privilege of Teaching

If education is the greatest activity of a people, it naturally follows that teaching is the most honorable profession. Educators have set a high mark for their labors—no less than to establish in youth the habit of being well and the love of abounding health; to furnish forth boys and girls so that the great world shall be no unsolvable riddle and with confidence they shall take their places in industry; from little childhood to instill in their minds the obligation that lies upon him who rules as upon him who obeys; to teach youth to fill up the lengthening hours of leisure with things worth

while and always to play the game square like honorable men.

What profession has set for itself nobler ideals? It should stand first; but does it? By the measure of extent it surely assumes the first place, but there are other standards by which a profession should be judged. Does it attract the best minds and does it hold them? Are the rewards for advancing knowledge and greater skill sufficient to call for continued endeavor? In law it may almost be said that once a lawyer always a lawyer, and white hairs are the sign of accumulated wisdom. So the physician and surgeon remains in his profession, because he loves it; and while his hand may waver, his advice gains in value with the hurrying years. It is the same with engineers and all men of science; and in the world of business the rule maintains that experience is the mother of wisdom, and wisdom has her rewards.

Frequently Changing Personnel

Yet when we enter the field of teaching, the standards set for other professions do not maintain. You have all visualized that line of teachers as pictured by Bagley, and remember that 150,000 passed by the reviewing stand before one was reached who had taught two years, and one-half the line before the first one who had taught four years appeared. A study made by the Chicago High School Teachers' Club in 1914 reads: "We have it on government authority that after ten years only five per cent of teachers remain in the profession; after twenty years less than four per cent." The average term of service has lengthened since 1914; but it is doubtful whether it has reached eight years even today. In Minneapolis this last year twenty-five per cent had taught ten years, and only seventeen per cent had taught twenty-one years or more. Again that famous line is in review, and twenty-five per cent had passed before one was reached who was twenty-one years of age, and 300,000 had skipped by be-

fore one sedate teacher with four years of experience was reached.

What I have been trying to show by these figures is that wisdom that is the ripened fruit of maturity and establishes a profession cannot be gained when less than five per cent of the teachers practice in the profession twenty years.

Now why do we have such a condition? I presume we shall have to credit Dan Cupid with a large share of this dreadful mortality. Yet we should remember that among the splendid remnant that he has overlooked there are some who look along the years and see small reward for increased skill and wisdom. In most school systems the number of years of experience needed to reach the maximum of salary varies from ten to twelve. That is, if we assume that the average age for entering upon teaching is twenty-two, and I am sure that the figure is too high, at the age of thirty-two or thirty-four, increasing rewards for better service have ceased. In the other professions the compensation advances with experience for another thirty years.

Another factor in decimating this army has been the insecurity of positions. Fortunately communities are providing against removals of teachers, except for definite causes. When to this is added a retirement fund for teachers who have given faithful service, these elements have not the baneful influence they once possessed.

It seems to be well established that study after a period of teaching gives the largest return. It is not possible for any person preparing for teaching to foresee the problem that will confront her. Even though they be stated by a Kilpatrick or a Judd they are not yet real. The schoolroom alone propounds the hardest questions; and with an inquiring mind now crowded full of realities gained by years of experience, a teacher is just ready for her most profitable study in education.

First Year Efficiency

Statements of new teachers clearly indicate that they knew very little about how to teach when they began. It would be interesting to know what the percentage of efficiency really is in that terrifying first year. Measured by her later achievements, a first year teacher is not over fifty per cent efficient; and many will tell you that they learned more in that back-breaking first year than in all the years they studied at normal or university. The second year was much like the first; and it is not until the fourth or fifth year that things begin to slow down. And a statement has been made that rather early in experience average efficiency comes to a standstill; most teachers then remain on a plateau for a long period of years.

In *School and Society* for September, 1921, Mr. Luckey of the Bureau of Education wrote: "It is said that the most efficient teaching is done by men and women but three years out from the training school. This is unfortunate if true. No one who is not growing should continue in the force. There are teachers who have been in the service for forty years and are more efficient and inspirational the forty-first year than ever before. The growing teacher never grows old."

The problem of school administrations, then, is to find the fountain of perpetual youth. Demonstration schools in many cities, for those who are struggling in those trying first years and for those who later feel the need of the newer techniques (and there are newer and better ways of doing things) have proved their value, and many teachers raise their voices, grown young again, in praise of these opportunities. And many cities have inaugurated the sabbatical leave as another method of renewing youthful enthusiasm.

Eligibility for Leave of Absence

The rules adopted for carrying on a sabbatical leave are nearly uniform for all cities. There must first be a period of service, before the leave can be secured. (The figures used here have been furnished by John K. Norton, Director of the Research Division of the National Education Association.) Of the thirty cities now granting this opportunity, twelve cities demand seven years of prior service, and thirteen cities call for ten years. One city demands six years, one eight, one fifteen, and one, Richmond, Virginia, asks for but three years. The assumption that underlies this larger demand is that worthy service has earned this privilege; but I am sure that many administrators believe that a short period of teaching has not established the probability that any person has definitely chosen his life profession. Surely when half of our teachers leave before five years of service there can be small justification for a period of less than seven years; especially is this true when most cities have a probationary period of three years. On the other hand, deferring too long defeats a part of its purpose. The vista of years seems endless to youth, and dull drudgery stifles enthusiasm. Hope deferred makes the heart sad. The present general practice of requiring seven to ten years of preliminary experience seems wise.

The length of the leave is one year or one-half year, twenty-two cities granting a full year, and eight one-half year. Minneapolis is one of the cities granting one semester, though a second semester may be taken but at the teacher's own expense. The reason for the shorter period was

that I believed that the number applying would be so large that it would be unfair to the great majority to have only a few benefit by this opportunity. So far the quota has never been filled; but the number is steadily increasing and doubtless to grant the longer leave to a few would cut out others from going. It seems better that many share rather than that a few monopolize the privilege.

The salary paid during this period is one-half pay or full pay less the salary of a substitute. In either case the expense to the city is negligible. Fifteen cities use half pay, while three use full salary less the pay of a substitute. Seven cities limit the pay to \$1,000 or some other fixed amount. Five have various other provisions. Because the expense to the city is a mere trifle, some teachers have expressed the wish that they be granted a year's leave rather than a semester's, and the basis of the request is that it costs nothing to the city.

On the other hand, it is assumed by the administration that the skill of a regular teacher is greater than that of a substitute who takes her place. Though the money cost to a city would not be increased by this provision, some one is paying the price, and that somebody is the helpless children. Who knows what the price is? If cost were the lone consideration, schools might better be served entirely by substitutes. It would be cheap, but would it be economical?

Returning to Service

Nearly every city has thought it wise to provide for the teacher's return to service after leave. Three years of teaching is the common term of service, though three have two years and five have one. New York does not demand any compensatory service. In every case except New York teachers must stipulate that they will give back to the city, if they leave before the period of teaching agreed upon, an amount of money proportionate to the time they have not taught.

Another agreement that the cities generally make is that a teacher may return to the same position she left, if she so desires. Further, the teacher will receive the same increment of salary as if teaching, nor does she forfeit any rights to the retirement fund provisions. These rules apply with but slight variations in all cities. They are a just obligation; for to withdraw any of these privileges lays an unwarranted penalty on a teacher who, we should never forget, is paying her share to make her service valuable to the city.

The next and most vital consideration is what are the objectives and what are the results. The tabulation shows that the whole thirty cities name study as the first objective; nineteen include

travel; four mention restoration of health; and five grant leave for rest after twenty years of service. No stronger endorsement could be given for granting a leave for restoration of health than the actual story that New York tells. In 1915, the retirement fund had run so low that teachers eligible to its benefits could get no annuity. The Board of Education felt an obligation in the matter, and granted leave on half pay to those teachers. The renewal of strength was so noticeable that many of the teachers returned to very satisfactory service. This experience was repeated several times before a sabbatical leave was adopted for the city in 1925. The original plan limited this privilege to one hundred elementary teachers and fifty high-school teachers, approximately one-half of one per cent of all teachers. Subsequently, the number has been twice extended, and last year their by-law was suspended, and the privilege was granted to 337, over one per cent of the whole teaching corps. What higher endorsement could be given?

Sabbatical Leave Questionnaire

Last spring I sent a questionnaire to all teachers in Minneapolis who had availed themselves of this opportunity. The questions were:

1. What objectives had you in mind in asking for a sabbatical leave?
2. Give in detail how this leave was spent.
3. If you were to repeat this leave, what changes would you make in your plans?
4. What changes, if any, would you recommend in our present rules for sabbatical leave? Why?
5. In what manner did you personally benefit?
6. In what way have the Minneapolis Public Schools benefited?

Questions five and six are the only ones I shall have time to consider here. And I quote a few out of many. A writes: "I benefited by getting out of the harness—routine—ruts—getting jarred into newer trains of thought; by comparing jobs and advantages with people of the same status all over the country. These things either make your own job impossible or vastly more appreciated. Mental house-cleaning, such as one gets at Columbia, made space for newer ideas and methods. On my return I was just eager to try out all the newer methods and tricks of the trade I had been accumulating."

B writes: "I went away much frayed at the edges, and returned all knitted up again. I have felt younger ever since."

C: "I can think of no way in which my thinking is not changed. I came closely into contact

with scientific methods of education, and this contact definitely broadened and deepened my outlook. But this does not seem to me nearly so important as the general broadening that took place in my thinking. I am not only a different teacher, but a different person for having had this experience."

Now I quote from three who spent their time in travel. E writes: "My viewpoint was so completely changed that I feel as though I am another person. I discovered that there is another world that I had completely forgotten; a world of music, architecture, history, beauty, and art. I had been to Europe before but it was a hurried trip. This time I had the opportunity to travel leisurely. I studied history where history was made. I visited the homes and haunts of the great writers and poets and felt the atmosphere that they felt when writing. I shall never forget the days I spent on the banks of the Avon reading the works of the wonder-poet. The treasures of art are too vast to accomplish much, but it was a joy to come to know more intimately the names of Michelangelo, Leonardo da Vinci, Fra Angelico, and many others. I know that without the opportunity for travel many of our teachers would be quite unfamiliar with the names of some of these people who have left great works for the world to enjoy.

"To tell the truth, I sometimes wish that we all could be required to travel during our sabbatical leave. I know, of course, that this is quite impossible financially to some, but as a group we have a one track mind and we need so much the greater background and the larger vision. I feel now that never again shall I express my views on international problems without first hand information. I feel very positive that if we all traveled more the problem of international peace would be solved."

A Relief From Routine

D: "I wanted for once in a long period of teaching to have time enough to stretch my soul and fill my lungs. I'm strenuous and have family and friends galore. I wanted to get away and be myself with no inhibiting outsiders whose feelings must be considered. Summer vacations are too short and too full of others for me to get away from my teacher self.

"The war with its great political and economic entanglements and harvest of intolerance and hatred has made me wish intensely to add more light and less heat to the teaching of history.

"Unless teachers can impart some thrill or adventure with their subject, let them excuse themselves and go quietly away. I'm fifty-four

years old and I'd begun to fear I'd lost the part of me that could adventure. I traveled alone some, climbed a snow-clad peak, romanced with El Cid and Hannibal, visited with strangers, chatted with priests and monks, and attended an audience at the Vatican, etc.

"I came back refreshed and feeling that to teach school in Minneapolis is a privilege.

"I gained an increased respect for the people of Europe and what they have accomplished under geographic disadvantages and with their age-old traditions and hatreds as handicaps.

"What we all need in every phase of teaching is *vision*, and every new experience gives understanding. New knowledge pushes back our horizons.

"1. My history teaching now is much less the teaching of a text.

"2. I have a bigger self. I'm enlarged.

"3. I visualize more the geography back of history.

"4. I understand better the background and viewpoint of the transplanted parents whose children I teach.

"5. Great periods and people are more than names:—The Renaissance is a living, throbbing fact, and the Medici are *folks*.

"6. From the ignorant Americans I met I know how the lack of knowledge limits enjoyment and I want more than ever to help lay a foundation for 'a fine enjoyment of living.'"

Yes, teachers are like other persons and can get tired. To travel the same road day after day brings weariness at evening. Some morning after years of devoted sacrifice, a teacher finds that gentle sleep has not knitted up the raveled sleeve of care. Pain holds revel in the tired-out body where joy was wont to dwell. Life's pulses then beat low, and fear creeps into the soul. Day is passed with dread, and night is filled with devastating dreams. What does she see at the end but horrifying failure? Then comes rest, rest with half pay. The mountains are yet strong; the ocean is infinite. She can walk beside the still waters; she can find her way through green pastures; kind Nature will restore the soul, and she can join singing:

"I hear the echoes through the mountain throng,
The winds come to me from the fields of sleep,

And all the earth is gay:

Land and sea

Give themselves to jollity,

And with the heart of May

Doth every beast keep holiday;

Thou Child of Joy,

Shout round me, let me hear thy shouts, thou
Happy Shepherd-boy!"

And teachers can go stale. To teach the same reading lesson, arithmetic, spelling, and geography—what of novelty or interest has not been sucked out of them long years ago? Were it not for her abiding happiness of living with little children, a teacher's mind would always drop down to drowsy slumber. For them she urges herself forward; but at last lethargy overcomes activity and the mind grows like a stagnant pool. You have seen such a pond, all covered tight with its forbidding scum. But let a small bright stream pour its waters through, then the little fishes flash silver in their play; birds dip their bills and lift their heads in gladness; and lilies float in leisurely rhythm on the swinging waves. So I see study for a semester or a year pouring fresh knowledge through a stagnant mind, clearing out dead old notions and making room for new. When tried and proved worthy, new principles and new techniques find safe lodgment; and in a soil, prepared and fertile, new variants take root, and original ideas flourish. Confidence overcomes timidity and joy in labor possesses a mind made strong again.

Dangers of Narrow-Mindedness

And teachers, along with all other people, can grow narrow. Provincialism is to-day almost a crime against humanity. Who lives to himself in a little world that he crosses every morning and returns at evening to place his profits in a safe deposit vault, even though the probate notice shows a large estate, is a sorry failure. He dwells forever in a dark tower of self. Only one little window opens out upon a sordid world. Surely one of the most important lessons we should be teaching to-day is unselfishness, so wide that it passes beyond home and town and nation, leaps the barriers between peoples, and includes all humanity. We may learn from our geographies the height of mountains, the length of rivers, the size of cities, and what the people do to live, but never the nation. Nations are not things, large or small; nations are the souls of men and women and little children. Fortunate indeed is any city that sends a quota of its teachers to travel in foreign lands. For we can know a people, its habits of living, of thinking, its hoping, only as we dwell among them. And just as surely as ignorance among nations leads to suspicion, suspicion begets fear, and fear is the mother of hatred and war, so surely does understanding lead to confidence, confidence to good will, and good will to strong and enduring peace.

I have come almost straight to Seattle from Ostend, where I attended the convention of Rotary International. Eight thousand persons had gath-

ered there from forty different nations—many of them so recently risen from the catastrophe of horrid war. Every speaker from whatever nation pleaded for international understanding. And could we see them as they are, the masses without money for little pleasures, some without necessities, their schools crippled, and their churches shackled by poverty, we should know why voices tremble and tears drop down while they pray that all may some day understand. We who felt so little the shock of war are so far from this sad spectacle that we cannot see. Teachers must go for us and bring back to little children the truth and teach them to know "The world is my country, and my countrymen all mankind."

The Greatest of These is Travel

A sabbatical leave should be granted for rest, for study, for travel—these three—but for to-day the greatest of these is travel.

Here I should stop, but one sentiment is so common that I cannot refrain from quoting again. Among the benefits named were "an increased appreciation of my home and city;" "a teacher's greater loyalty toward an administration that has treated her so generously;" "an added confidence in our wonderful city and its splendid school system;" "the added respect and love it gave me to an already high regard and love for the Minneapolis school system." And one writes: "We broadcast what Minneapolis was doing for us and everywhere people pronounced it a generous and dignified way for a city to treat its teachers."

Whatever has been said by these representative teachers of Minneapolis has been duplicated by teachers in Boston, New York, Ann Arbor, and Seattle. Loyalty is not provincial; loyalty is as wide as the world. And who shall set a price on loyalty and enthusiasm? The prize of success is never won by lukewarm neutrality; it is fiery enthusiasm that achieves. Conviction of his hearers is seldom won by phonographic perfection; conviction is forced by a bloodwarm personality hurling words tipped with fire. And words that leave an indelible print on a child's mind never come from a passionless soul. Years signify little in the soul's life; it is only necessary that the torch of knowledge be reached forward by the spirit of unconquerable, victorious youth. No price can be set on flaming loyalty and burning enthusiasm. I would place them with recovered health, widened knowledge, and increased skill. These treasures have been purchased at a small price when they are given in return for a sabbatical leave—a fountain of youth and source of power for teachers, a safe investment that will bring rich returns to any community.

The Educators' Round Table

Your viewpoints, criticisms, and ideas may find expression in these pages. Write to the Editor, on any thoughts that you feel have significance to the entire school group.

Who Shall Go to College?

DR. R. B. HOUSE, *University of North Carolina:*

It is a cardinal point in the position of the University of North Carolina that it belongs to all of the people of the state, must receive all citizens who apply with proper certificates for entrance, and do its best for them. It has absolutely no theory of limitation of numbers, holding rather that it is the privilege of the individual to try himself out in the actual conditions of this university, and the duty of the university to help him in every way possible to meet these conditions, which as near as we can make them are the broad standards of modern university procedure. We consider every attitude other than welcoming all who would come here, a betrayal of the spirit and purpose of the state which founded and maintains the university as an inseparable unit in a system of public education supported by public funds for the benefit of the public absolutely with no qualification except that proper standards be maintained by universities and met actually by the individual student.

DR. SAMUEL DRURY, *Headmaster, St. Paul's School, Concord, New Hampshire:*

The present wide-spread belief that a college education is the be-all and the end-all here, deserves checking up. In what other country, save perhaps Germany, does there attach such reverence to a university degree? It is well nigh pathetic to see parents skimping and sacrificing to give their more or less scholastically keen sons the supposed indubitable benefits of four years residence at a college. Often enough those years are spent in marking time. The educational world should scrutinize its candidates for college and ask of each whether he or she is worth the possible economic loss of four years of non-productive living.

How regrettable is the social importance at-

taching to an A. B. degree. I deprecate the possible snobbery of university and college clubs throughout the country, in which graduates of colleges are banded together in a better-than-thou fraternity. When we compare the non-college with the college men of middle life, do we not often discern in the former quite as wide reading, good breeding, and altruistic intelligence as among the Bachelors of Arts?

Only this morning I talked with a boy of eighteen about going to college. Last summer he worked in a bank, still remembering the exhilarating experience of a pay-envelope and the lilt of knowing that he counted economically in the work-a-day world. His mother works for her living. Shall he expect her to support him for four more years of education? Surely not, unless he can prove in advance that her investment is sound. Unless he knows why he is going to college and what he will get out of it, he should deny himself the "learnéd leisure" and social contacts and those extra-curriculum activities that bulk so large on every campus.

The reason so many boys go to college is because our American social scheme is increasingly geared to a period of study between the ages of eighteen and twenty-two. Not much that is attractive in the commercial world offers itself to the young American of eighteen. Might there not be devised a cultural course at college lasting two years, definitely preparing its members for practical work in the business world? Thereby we should put a vocational backbone into a boy's college experience and decrease by one-half the possible leakage and loss of the traditional course.

To my mind, the major examination admitting to college should be a personal interview held by the college authorities, in which candidates should prove their right to enter the college gate. By the same token the all-important promotion examina-

tion from year to year should again be a personal interview, wherein the candidate should make good his right to stay. The passing of written examinations is no proof that a student should be allowed to cumber the academic ground.

This, no doubt, sounds unappreciative of what the colleges offer. It is meant, however, to exalt college life and all that may be richly and fruitfully gained thereby. Many boys go to college who should not—perhaps as many do not go, who should. I advocate, not larger colleges, but a far shrewder sifting of the material. Nobody should go to college who can help it! Only those should be admitted who force an entrance by their fervent and reasoned importunity. College life is good only for those who insist upon it and can show in advance a reason for the scholastic hope that is in them.

EDWIN C. BROOME, *Superintendent of Schools, Philadelphia:*

I heard Dr. Boynton's address and felt inclined to agree with practically everything he said. The remedy that he suggests would not, however, in my judgment, entirely remedy the situation. I agree with him that every boy and girl who has completed a standard secondary course ought to have the college door open, just as much as the boy or girl who has completed an elementary course to the satisfaction of the school authorities may go on to the high school. In my judgment the door of opportunity should be open from the kindergarten to the university.

It is probably true that, if the teaching capacity of the teachers and professors in all the colleges were utilized to the maximum, considerably more students could be accommodated than are accommodated at present. I doubt, however, that thereby "all the young people in the country who might wish to secure a college education could be adequately provided for." Dormitories, classrooms, and laboratory facilities would not be adequate in many colleges.

It seems to me that there are several remedies that can be applied. First, the appropriation of larger funds for state colleges and universities, and the establishment of more such institutions within the same state. For example, there is no reason why there should be only one university in the state of Wisconsin, overcrowded with students, when there is evident need for more facilities. There might be two or three independent state universities of smaller size, or possibly, as in California, branches of the state university established in different parts of the state. Private and endowed institutions would have to solve the problem in different ways. Mr. Rockefeller's sug-

gestion was that the full cost of instruction be charged up to the students in the case of all who are able to pay it, with a liberal provision for free scholarships.

A second plan would be for the state to subsidize all of the private and endowed colleges in the state by sufficient funds to enable them to receive all properly qualified applicants. This latter plan would be virtually an extension of the state university opportunities without destroying the identity of the small private colleges.

A third remedy would be the multiplication of junior colleges within the local communities, so that the academic or secondary field of instruction could be completed, leaving to the university only the specialized work looking toward the various vocations.

What I have tried to suggest is the thought that there seems to be no one remedy for the present situation. I feel as Dr. Boynton does that the method of elimination on the percentage basis, as employed by many colleges, is unjust to thousands and thousands of earnest boys and girls, and is also unjust to the public. It is not always those who happen to rank the highest on a college entrance examination who turn out to be the most serviceable citizens. The exceptions are so numerous as to warrant a somewhat different treatment than that of an arbitrary system of elimination.

ARLAND D. WEEKS, *State College, Fargo, North Dakota:*

To-day the high-school graduate may find the doors of many of the institutions of higher education closed to him on account of pressure of numbers seeking entrance, or if once within the gates he may fall a victim to a drastic system of elimination. The right of access or of sojourn is not assured every worthy high-school graduate capable of profiting by college instruction and desiring to enroll. It is no small matter that on returns from fifty-one colleges, 15,196 candidates were denied admission in September, 1926. The closed door in education moves Superintendent Boynton to a vigorous protest and to arresting suggestions; his paper is highly provocative; it abounds in challenges and dares to action those who would face fundamental educational and social issues.

Presumably, the practice of admitting only select groups of students, to which Superintendent Boynton objects, prevails nowhere else than in endowed institutions, and mainly in the populous eastern states. To the state institutions, generally speaking, all qualified students who will may come, and if buildings and teaching staff do not suffice, the shortages are likely to be made good

at an ensuing session of the legislature. Witness, for example, the sixteen million dollar building program of the University of Wisconsin. Once convince through survey or visitation the educational committees of a legislature that the facilities of state college or university are deficient, and relief may be expected; such is the usual outcome.

State institutions do, no doubt, share in a certain conventionality as to entrance requirements and types of program; they, too, may harbor the instructor who needs no training for his art, and they may send too many students back home not wholly because of inability of these to profit by college education conceived as Superintendent Boynton conceives it. But the gravamen of the indictment is denial of access to worthy high-school graduates, and to this charge the reply of the state institutions is that they are constantly expanding in an effort to keep pace with the high-school output. Denial of opportunity to attend college seems as far from the legislative mind as denial of high-school privileges to the whole young public.

The providing of larger facilities for college education in states and sections where such are now inadequate is evidently an urgent need, for the will to go to college is strong. We want college education for our own children of course; so do other parents for theirs. And life today calls not for less, not for the same amount, but for more education. There is even some consistency between increase of school life and increase in expectation of life, in years, the lengthening of the human span through the hygienic progress of the past fifty years. Civilization can stand more education; and as for the employments men live by, these tend more and more to require training beyond the high school.

The first of the resolutions adopted by the representative assembly of the National Education Association at its meeting in Seattle last year advocates four years of training above the high school for every teacher as an ideal later to be achieved; the implications of that look toward no small increase in college enrollment. With higher standards not only in teaching but in other pursuits as well the outlook for college growth is confirmed.

But how provide the larger facilities? No better plan appears than that among Superintendent Boynton's five points—state supported junior colleges and universities; let the state extend its school system upward. Already the public junior college is thriving, as in Minnesota and California, and the state universities have made history.

The path to new state universities may or may not be through the state's taking over endowed colleges on the ground of their exemption from taxation and their origin in profits, but a manifest conclusion is that the state must sponsor an enlargement of its schools.

In Superintendent Boynton's article one suggestion in particular should be given bold face type, that referring to the reasonableness of one- two- or three-year college courses, to be honored by certificate of achievement. In this suggestion are possibilities of easing the pressure on the college facilities and of better serving students enrolled. In effect, the standard college would maintain a junior college, to be patronized by those who want culture but not four years of it, and by the vocationally minded whose vocations require work above the high school but only one, two, or three years more, or parts thereof.

Undoubtedly the tradition as to what constitutes a reputable period of college attendance is vulnerable. The country is full of people forced into an apologetic attitude because they left college when they thought they should; unhonored and unsung because they stayed less than four years, or eight semesters, or twelve quarters, bearing away no degree, dignified by no document. The idea that time is of the essence of college education is misapplied if worthy high-school graduates are led to feel that it is of little use to attend college if for less than four years. To be sure, four years of attendance, even more, will in many cases be necessary to acquire professional fitness; but the professional degree is on a different footing from a degree with little vocational reference.

As to the load of the college teacher, Superintendent Boynton does, in his article, appear to bay at the moon. The teaching load is often only part of the load. Administrative duties, carried by many who teach, displace an amount of teaching. In the larger universities, men are encouraged in productive scholarship even to the extent of substitution of research and authorship for half the usual teaching load. The teacher, by tacit assent, in order to carry the load of the grocery bill more comfortably, is often virtually on a part-time basis.

Possibly private colleges as such will maintain that loading is their affair anyhow; while in state institutions of learning, any hiatus between actual and contractual load is easily observed and soon corrected. Superintendent Boynton appears to envisage higher education in terms of the readily appeased mental appetites of high-school boys and girls and the relatively homogeneous and simple administration of the secondary school, a vitiating

tendency in his outlook that gives alarm to those who would have his proposed junior colleges represent stimuli notably in advance of those commonly afforded by the high school.

An important public service has been rendered by Superintendent Boynton in reporting conditions and striking out boldly for remedies. Between the lines, one reads the old conflict between the aristocratic and the democratic conceptions of education, reads and infers that the logic of events promises a more intimate bearing of college training upon the vital needs of the people, and the maintenance by the state of a sufficient number of institutions of higher learning to meet the needs of the children of the people.

M. C. POTTER, *Superintendent of Schools, Milwaukee:*

Superintendent Boynton's address before the Dallas Convention of the Department of Superintendence raises several issues that deserve careful consideration. He indicts the colleges and universities for rejecting candidates for admission upon the basis of arbitrary standards; among others, he makes the charge that they not only are rejecting students on the basis of unsubstantiated claims of overcrowding, but are doing nothing to prepare for the approaching army of new candidates.

Insofar as the evidence bears out the truth of this charge, we can of course have little sympathy with the action of the colleges. Certainly no one will contend that students should be rejected on the grounds of physical limitation of plant, when the assumed limit is nowhere near the actual limit. There is reason to believe that what has been found to be the case in elementary and secondary schools is very likely to be found also in colleges. Schools once thought crowded have been found upon investigation and after a minimum of readjustment to be capable of housing many more students. In secondary schools it is not an uncommon occurrence to find, for example, that the capacity of a building could be increased twenty-five per cent or more by the simple expedient of lengthening the school day. There is every reason to believe that an analagous situation exists in colleges and universities in all sections of the country.

Colleges, like secondary and elementary schools, have before them also the problem of determining by scientific methods the most efficient sizes of classes in various subjects and courses, as well as what constitutes a reasonable teaching load. Enrollments in certain courses are often traditionally large and in others traditionally small. In neither case does practice appear to be based upon scien-

tific research. Every college graduate knows full well that much time is wasted in laboratories. If ordinary business standards of work were employed together with proper organization of instruction and equipment the work could frequently be done in much less time. Colleges should be measuring the efficiency of laboratory instruction as it is commonly organized.

If the colleges are to supply the intellectual demands of the sons and daughters of the people who foot the bills for higher education, the tax-supported institutions must prepare adequately for the future. The citizen who complacently pays his tax bill for the support of his state university does so with the notion that the door will be open when his own son or daughter is ready for entrance. Mr. Average Taxpayer little realizes the extent of the increase in demand for secondary-school training that has developed in the past few years. With high-school enrollments in many of the large cities of the country doubling in less than a decade, the colleges may expect a much larger inrush of students than ever before. The full force of the incoming wave of students has not yet been felt by the colleges or by the public. The crest may be a few years longer in coming. Will the colleges be prepared to cope with it, or will they resort to more arbitrary standards of admission?

As enrollments mount and rejections by colleges increase, the real issue will be forced into the open. That issue is more fundamental than mere physical accommodations. It is the question of how far we shall carry the idea of democracy in American education, as manifest in rising compulsory limits and increasing public facilities above those limits. Superintendent Boynton contends that every child has the right to have developed in academic schools whatever latent talents he may possess and that he should be permitted to go as far as his ability and ambition permit. He holds that no solution is adequate that does not assure every worthy high-school graduate an opportunity to prove by actual trial whether or not he can profit by higher training under conditions that provide at least a modicum of human sympathy and encouragement. He admits, however, that at every level of the educative process, there are some who have reached the limit of their capacity for education. In answer to all of this it would seem important to determine when and how far it is profitable to provide a given individual with a college education.

In saying this we realize full well the necessity for re-determining what college educations are or ought to be, and for improving our technique in

determining the capacity of individuals to profit by given types of training. To the casual observer, these matters seem to be receiving little attention in the average college or university. There is doubtless some truth in the contention that college faculties now use the presence of large numbers as an opportunity to apply the selective process with increasing ruthlessness. Much may be said on this question. A distinction must be made between private and tax-supported institutions; the privately endowed college may certainly determine its own standards. In the case of the tax-supported institutions the right to adopt an arbitrary exclusion policy is not so clear.

That all the professions are already crowded will not be denied, nor is there likely to be serious objection to raising the standard of the professions to higher and higher levels. If more college graduates are produced, how is society to absorb them? As college enrollments mount, and unless additional spheres of usefulness and service are found for college graduates, this problem will become more and more acute.

Shall we continue to look upon college training as essentially vocational or shall we lay more and more stress on college education as a way to complete and happy living? If its purpose is to make the individual vocationally fit, obviously many will have little need for college training. If, on the other hand, it is to be for the sake of enabling the individual to live more fully and completely, then there is no real reason for restricting college training to the intellectually superior. Formerly the college "fitted" only for the professions. Now, most of its graduates are in Business. Later, most of them may be in the ranks of Labor. If its purpose is, as some maintain, to increase the standard of living in order that we may increase civilized and civilizing consumption and thereby stimulate production in all lines, then again there is no reason for limiting higher education to a select few. The desire for production will be best served by the largest possible number having a high standard of living produced by education.

There is probably no more significant social phenomenon to-day than the unprecedented expansion in secondary-school enrollment certain to react in time not only on the colleges but upon our very social structure. Education has somehow suddenly increased in popularity. What to do with our educated citizens who refuse to entertain the notion of entering anything other than a profession is an unsolved problem, one that is of growing importance.

It is only in very recent years that the idea of a free high-school education for every individual desiring it has come to be accepted. The question

we are now facing is whether we shall provide every one who desires it with a college education, or at least so much of it as he is capable of absorbing with profit. Before this question can be settled we shall need to re-examine the purposes of college training, either as it is or as it can be made to be. Only as it is agreed that college education for the average citizen (a stage we are rapidly approaching) is socially worth what it costs is there reason to believe that the public will continue to provide higher education for an increasingly large percentage of the population. Wisely or unwisely, a generation of levelers will increasingly resent and resist the increased financing of any institution that retains as an ideal the exclusive training of a few peakmen at the expense of all men.

PROF. C. O. DAVIS, *University of Michigan, Secretary, North Central Association of Colleges and Secondary Schools:*

No sweeping general statement can be made about any university or about all university individuals. There are some of the hardest working men I have ever met connected with university staffs. There are also a great number of individuals who are going through the motions of being busy but are really fluttering away a good deal of time, and then there is a third class who, in my mind, come within Superintendent Boynton's criticism; namely, those who are loafing on the job.

Anyone familiar with university work knows that there is an enormous amount of committee work to be done, a good many administrative duties, and other obligations that take an individual's time. Further, there are a goodly number of very conscientious teachers who make thorough preparation for their classes and try to do a good job. I cannot get away from the idea, however, that very few college men prepare themselves very carefully for their daily classroom presentations. Many seem to think it is not necessary. They follow an old procedure using notes that they have used many times before. This is largely responsible for the terrifically dull teaching we find on the campuses. I cannot help but believe too that, granted every college man is entitled to leisure time, there is an enormous amount of time spent in golf, tennis, card playing, dancing, and perhaps over and above all, just reading for one's own personal satisfaction. Universities do not like to be surveyed. If real honest surveys were made of them I am sure some exceedingly weak spots would be discovered and much of what Superintendent Boynton charges would be substantiated.

Book Reviews

Teaching: Profession and Practice

BY A. R. BRUBACHER, PH.D., PRESIDENT OF THE
NEW YORK STATE COLLEGE FOR TEACHERS,
ALBANY, N. Y.¹

Dr. Brubacher's book deals with the profession of teaching and stresses the importance of the position of teacher in its influence upon the community. He explains in some detail why the public has been slow in recognizing the proper status of the teacher and advises those in the profession upon the course to take in order to gain recognition. The book is primarily written for teachers but its perusal will be of much benefit to all those interested in education.

Elementary School Methods

BY HORACE M. CULTER, PROFESSOR OF RURAL EDUCATION, KANSAS STATE TEACHERS COLLEGE, EMPORIA, KANSAS.²

Prof. Culter is Professor of Rural Education in the Kansas State Teachers College of Emporia. In this position he doubtless instructs students who are preparing to teach. He may also supervise their practice teaching. Whatever may be the character of Prof. Culter's present work he has somewhere picked up an unusually clear insight into the fundamental nature of real teaching. The reviewer is of the opinion that this insight comes only from doing such teaching. In fact, as the book is read the reader can almost see Prof. Culter at work in his classroom, and he gathers the impression that the work is being done in a remarkably effective manner. This is evident in three connections: (1) In the use of simple, direct sentences; (2) in the careful organization and arrangement of subject matter; and (3) in the wealth of clear, concise illustrations chosen from fields that represent very common experiences.

Part I of *Elementary School Methods* has to do with "Methods and Theory." In this part the author discusses the principles that underlie teaching. He makes clear such points as the following: The value of a teacher's realizing concretely the aims of education; the real nature of

subject matter and its function; that teaching after all is simply a matter of directing learning; what real motivation is; and the relationship that should obtain between psychological and logical organization.

Part II is given over to "Methods for Particular Subjects." In this part of the book Prof. Culter puts the reader in touch with new methods and devices in the fields of reading, language, grammar, spelling, handwriting, arithmetic, history, civics and safety, geography, health and sanitation, and library work. He emphasizes not only new methods and devices but also old ones if they are good.

The author says the book is written for "the teacher with little or no experience" and "the young person who teaches in the small town or open country school." It would certainly be a loss if the reading of the book should be confined to this class of teachers. It should be read by teachers in city schools as well as by those in rural schools, by older as well as by younger teachers. No one can come into contact with as fine an example of good teaching as this book itself represents without being benefited immeasurably thereby.—*Frank R. Clapp, University of Wisconsin.*

A Manual for School Officers

BY W. N. ANDERSEN, PH.D.¹

The manual that has been devised for school officers by Prof. Andersen is beyond doubt one of the best of the recent additions to the school administrator's library. It matters not whether he is a public school superintendent, a private school headmaster, a parochial school administrator, or a university president, he is sure to find excellent reference data and very pertinent facts by which to be guided in his everyday duties.

The superintendent's relation to the school board, the selection and employment of teachers, organization and administration, curricula making, and many other subjects are intelligently and adequately covered in this volume.

Because Prof. Andersen has written this book with the small school system superintendent in mind he has made it most comprehensive and

1. The Century Company, New York, 1927.

2. J. B. Lippincott Company, Philadelphia, 1927.

1. The Century Company, New York, 1927.

therefore of added value even to the superintendent of the larger system who should know the duties that he is delegating to supervisors. And for this reason it comes nearer to the problems of the private and parochial administrators.

Now We Are Six

BY A. A. MILNE, WITH DECORATIONS BY ERNEST H. SHEPARD.¹

Those of us who love both children and books will warmly welcome the opportunity this little book gives us to meet again Christopher Robin, who won his way into our hearts through the pages of Mr. Milne's *When We Were Very Young*.

Here are simple rhymes for children that will delight many an older reader as well. They are thoroughly human, genuine, and full of fun and their appeal is irresistible. They reflect the everyday happenings in the life of a little boy of six and blend happily a sense of reality with the imaginative element that enters into the life of most children. Christopher is a very real little boy whom children accept and love.

Much of the book's charm lies in the harmonious combination of picture and story. Mr. Shepard's decorations have a simplicity and sincerity that reveal a real love and understanding of children. No artist could have better expressed the spirit of the verses, and the designs do more than that for they give rein to the imagination.

Perhaps nothing since Robert Louis Stevenson's *Child's Garden of Verses* has appealed more to both children and the grown-ups who love them than do Mr. Milne's verses, written in such engaging meter. *Now We Are Six* lacks some of spontaneity and piquancy of the earlier volume, but there is much that pleases in these rhymes. Here is one of them:

When I was one
I had just begun.
When I was two
I was nearly new.
When I was three
I was hardly me.
When I was four
I was not much more.
When I was five
I was just alive.

But now I am six I'm as clever as clever,
So I think I'll be six now for ever and ever.

The book is for the home, the library, and the school.—*Janet Peterkin.*

1. The Macmillan Company, New York, 1927.

The Janitor's Salary

"It was requested in a questionnaire that each city state the highest, the lowest, and the average salary paid to its school janitors. The main object in securing these data was to get the average salaries paid janitors for the purposes of comparing them with salaries paid other school officials, especially teachers.

"Taking the average of all the replies received on this point, it is found that the average salary paid to janitors is \$980.42. It should be noted that this average is made up from cities in every section of the country, in some of which the salaries are very low. Furthermore, there is reason to believe that many cities, in getting the average submitted, included the very lowest amounts paid assistants and helpers, some of which are for part time only. If all such cases could be eliminated, as they should be, the general average would be somewhat higher.

Extra Service Not Included

"It should also be borne in mind that the averages given are exclusive of the additional compensation received for extra service, such as evening schools, evening play centers, vacation schools, vacation playgrounds, free lectures, etc. This item would also raise the general average, inasmuch as 622 cities, or sixty-five per cent of those reporting, pay additional amounts for such extra service. A few cities also furnish living quarters to all or some of their janitors, and the value of these is, likewise, not included in the averages here given.

"Even as it is, however, the average salary paid janitors, taking the country over, is higher than the average salary paid elementary teachers. This is indicated, in the first place, by some of the survey reports. In the city of Oakland, California, for instance, it was found that kindergarten and elementary teachers are paid a minimum salary of \$780, and a maximum of \$1,200 per annum. The minimum salary paid school janitors is \$900, and the maximum \$1,200 per annum. In Elyria, Ohio, at the time the survey was made, school janitors were paid from \$840 to \$1,260 per annum.

"The medium salary of elementary teachers in Elyria was \$700. The medium salary of janitors in elementary schools was \$975, or \$275 more than for elementary teachers. The highest salary paid a principal of elementary schools was \$887.50, or \$372.50 less than the highest-paid janitor, and only \$47.50 more than the lowest-paid janitor."—*J. A. Garber, Bureau of Education Bulletin No. 24.*

Programs Promise Beneficial N. E. A. Meetings at Boston

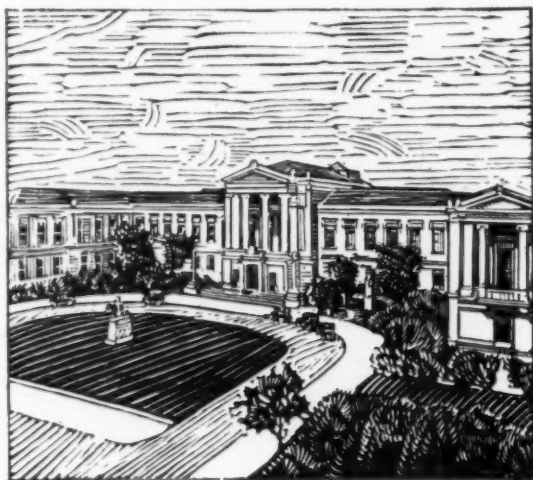
NO BETTER city could have been chosen for the meeting of the National Education Association than historic Boston. When the members of those organizations devoted to education and its administration assemble in February with most of the sessions in Mechanics Hall, it will be in a setting both educational and historic, for Boston and New England are closely associated with the birth of this country and the development of its education.

The arrangements for the reception and entertainment of those attending the meetings in Bos-

ton there will be ten such divisions in session.

The themes for the general meetings are:

1. The Secondary School Provides Entrance Requirements
 - (a) for the home
 - (b) for business and industry
 - (c) for citizenship
 - (d) for college
2. The Place of Visual Instruction in the Public School Curriculum. (This program will include a master film showing progressive features of education from many cities of the United States.)
3. Financing Public Education
 - (a) sources of revenue
 - (b) distribution of funds
 - (c) efficient expenditures of funds
4. Supervision of High-School Teaching
 - (a) from the standpoint of the school department
 - (b) from the standpoint of the high-school principal
 - (c) from the standpoint of the high-school teacher
 - (d) from the standpoint of the teacher-training institution
5. The Profession of Educational Administration
 - (a) the work of the school department
 - (b) the professional qualifications of a school superintendent
 - (c) the relation of the school superintendent to the board of education
 - (d) the training of school superintendents in universities
 - (e) the training of school superintendents in service
6. The Relation of Public Schools to Higher Education
 - (a) from the viewpoint of the state university
 - (b) from the viewpoint of the privately endowed university
 - (c) from the viewpoint of the superintendent of public schools
 - (d) from the viewpoint of the high-school principal
7. No general theme for this meeting.
8. Entertainment to be furnished at all sessions by various musical organizations of Boston.



Art Museum

ton are complete, and everything within the power of the Boston committee has been done to make the visit to Boston both pleasant and profitable. Much credit is due to the Boston Chamber of Commerce which has taken over the assigning of hotel accommodations, the preparation of the meeting halls, and the other onerous duties connected with such an undertaking, and the commerce organization has done remarkably well.

The work of preparing the programs for the different sections is progressing and from all indications this year's meeting will be on a par at least with previous meetings from the standpoint of helpful discussions.

The Department of Superintendence will hold eight general sessions. On Monday afternoon the meetings will be in discussion groups, of which there will be fifteen, while on Tuesday afternoon the meetings will be in administrative groups and



Old State House

The Year Book of the Department of Superintendence is devoted to the curriculum of the secondary school and this year's Year Book will be discussed in six or seven meetings to be held on Monday afternoon.

Living and moving demonstrations will be some of the features of the exhibit of the Department of Superintendence at Boston. The public schools of the city and schools from neighboring towns will give class demonstrations each day during the convention, showing ways and means employed for the best education in the several grades and departments. Many motion pictures will also be exhibited.

For the first time in the history of the N. E. A. the superintendents and the high-school principals will get together in one great meeting. That this co-operation will result in exceptional benefit to both is unquestioned, and both the superintendents and the principals are looking forward to the most helpful program that has ever been furnished at a national meeting. The National Association of Secondary-School Principals will meet with the superintendents in all meetings where the discussions will be beneficial to both.

On Monday afternoon the secondary-school principals will also hear two speakers on international secondary education. Mr. Counts will make a detailed presentation of his personal study in Russia and Dr. Gogate, chairman of the committee on education of the Hindustan Association of America, will present an address on the progress of secondary education in India.

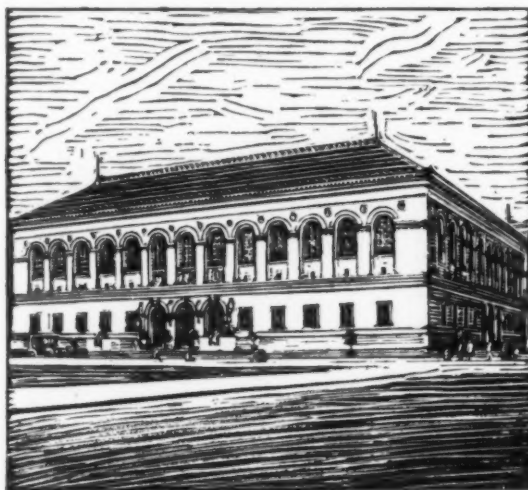
On Tuesday morning the associations will break into two groups, one for junior high-school executives and the other for senior high-school executives. Tuesday noon will be the time of the annual luncheon, to be held this year at the Statler Hotel, and two excellent speakers will be heard. Cameron Beck, director of personnel of the New York Stock Exchange, and Garrit A. Beneker, the

well known artist, will each deliver a message.

Wednesday afternoon will be devoted to guidance and counseling in the secondary school and there will be an interesting report of the special committee on this subject.

On Monday evening a special exhibition for secondary-school men and others will be offered at the High School of Commerce. The Boston headmasters will make a special project of this exhibit.

A special demonstration ceremony of the National Honor Society at the famous Girls' Latin School will be given on Wednesday morning.



Public Library

The National Council of Education will this year discuss the general theme "Synthetic Research or Integration." The tentative program for this section is as follows:

"Unity Amidst Diversity in Educational Endeavor," Dr. J. C. Miller, the University of Pennsylvania; Report of the Committee on Child Behavior, Olive Jones; Report of the Committee on Illiteracy, Mrs. Cora Wilson Stewart; a discussion on a topic not yet assigned by Dr. Paul Monroe, Teachers' College, Columbia University; and a report of the Committee on Participation of Teachers in Management of the Schools.

The Educational Research Association will hold a dinner meeting on Monday, when general business will be transacted and the report of the president of the Educational Research Association will be read. Tuesday and Wednesday mornings will be given over to closed meetings for the discussion of technical school research problems. On Tuesday afternoon there will be a joint meeting with the National Society of College Teachers of Education and the topic will be "The Research Bureau in Public School Systems."

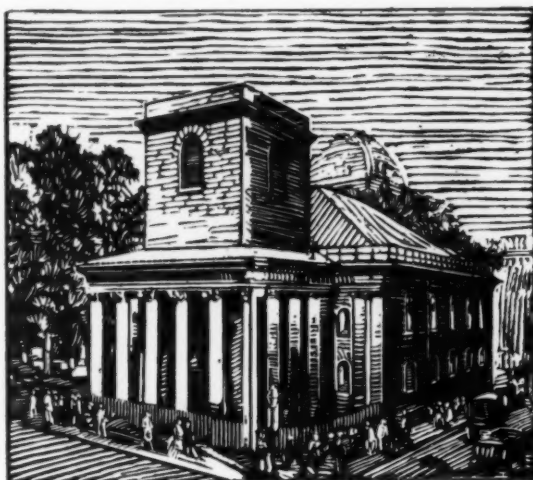
"Research in Some of Its Larger Aspects" will be the topic for a general open meeting to be held

Wednesday afternoon. Two of the speakers announced for this section are Dr. E. L. Thorndike and Dr. Charles H. Judd.

The National Association of High-School Supervisors has arranged both an interesting and instructive program which will start on Monday afternoon. The first topic for discussion will be "Teachers' Conferences" and this is divided into three sub-topics namely: How may a subject matter group conference be made most helpful? What can be done to improve organization through regional conferences of principals? How shall we conduct other types of conferences, such as clinics and teachers' demonstrations? At four o'clock a plan for securing better teaching in high schools will be discussed.

Desires State Supervision

The Tuesday morning meeting will be devoted to the theme, "An Investigation of State Supervision with Suggestions for Improvement." An analysis of the supervisors' reports, suggestions for improving supervisory technique, and how to make official reports helpful to administrative officials, will be taken up. At eleven o'clock the



King's Chapel

problems of the summer session high school, with some suggested solutions, will close the Tuesday morning session.

The Tuesday afternoon session will be given over to round table discussions of problems that will be chosen by those attending the meeting. Avery W. Skinner, president of the National Association of High-School Supervisors, has sent out a list of questions to be discussed and has requested those interested to check the topics that should be considered. All meetings will be held at the Ritz Carlton Hotel.

The Department of Rural Education has arranged a program that will include many speak-

ers on vital topics affecting education in the sparsely settled districts. "School Administration" will be discussed by Julian E. Butterworth, professor of education, Cornell University, N. L. Engelhardt, professor of education, Teachers' College, Columbia University, and others. Supervision will be discussed by Helen Heffernan, chief of the division of rural education, Sacramento, Calif., and I. Jewell Simpson, assistant state superintendent of schools, Baltimore. "The Elementary School Course of Study" will be discussed by Anna D. Cordts, Iowa State Teachers' College, and Helen Heyl, assistant, Rural Education Bureau of the State of New York. Appointments of committees will follow and end this first session to be held on Monday afternoon.

On Tuesday morning Joseph Roemer, professor of education, University of Florida, and Emery N. Ferriss, professor of education, Cornell University, will discuss "The High-School Program of Studies." This will be followed by a discussion on "The Junior High or Intermediate School Program of Studies," participated in by Clyde Hill, professor of secondary education, Yale University, and Francis T. Spaulding, assistant professor of education, Harvard University. "Teacher Preparation" is the topic that will be discussed by A. B. Meredith, Commissioner of Education of Connecticut, and William McKinley Robinson, professor of education, Western State Teachers' College, Kalamazoo, Mich.

Tuesday afternoon sectional meetings will be as follows:

State Supervisors of Rural Education and Inspection of Rural Schools, Helen Heffernan, chairman.

County Superintendents and County Supervisors of Rural Schools, County Superintendent C. M. Dickey, Pittsburgh, Pa., chairman.



Faneuil Hall

*Old Ironsides*

Persons Engaged in the Preparation of Rural Teachers.

Vocational Directors and Rural Extension Workers.

Village and Consolidated School Principals, C. G. Sargent, professor of education, Colorado Agricultural College, chairman.

On Wednesday afternoon the topic that will be discussed is "The 4 H Clubs and the Public School Systems of the Several States." A. C. True, formerly director of the state relations service, Department of Agriculture, Washington, D. C., and Fannie W. Dunn, professor of education, Teachers' College, Columbia University, will lead the discussion. The session will close with a business meeting.

The Vocational Education Section will hold sectional meetings on Tuesday morning, a general session in the afternoon at the Boston Trade School and, on Wednesday morning, a meeting at the Massachusetts Institute of Technology. In the afternoon visitations to various schools and institutes located in Boston have been scheduled.

*Old North Church*

The tentative programs of the other departments have not as yet been announced.

Many breakfasts, luncheons, and dinners have been scheduled in the various hotels in Boston, particularly at the Copley Plaza, the Ritz Carlton, and the Statler. The High-School Women's Club will hold a dinner in the ballroom of the Copley Plaza at seven o'clock on the evening of February 27. The National Association of the Deans of Women will hold a luncheon in the new Sheraton room of the Copley Plaza at 12:30 p.m., February 28, and a dinner in the ballroom.

A luncheon has been arranged for the National Council of Primary Education in the ballroom of the Copley Plaza for Tuesday at 12:30 p.m.

The National Conference on Education Methods will hold a luncheon at 12:30 p.m. on Wednesday in the new Sheraton room of the Copley Plaza,

*State House*

and the National Association of Deans of Women will have a luncheon on the same day in the foyer.

The Elementary Principals Association will hold three breakfasts during the week at the Statler Hotel.

The National Vocational Guidance Association, National Council of Teachers of Mathematics, National Federation of State High-School Athletic Associations, and the Department of Classroom Teachers, have scheduled luncheons at the Statler.

The National Vocational Guidance Association, National Council of Teachers of Mathematics, High-School Women's Clubs, National Council of Administrative Women in Education, Associated Exhibitors of the National Education Association, National Association for the Study of the Platoon of Work-Study-Play School Organization, Elementary Principals Association, Alumni of Teachers' College, Columbia University, and the Alumni of New York University, have scheduled dinners at the Statler.



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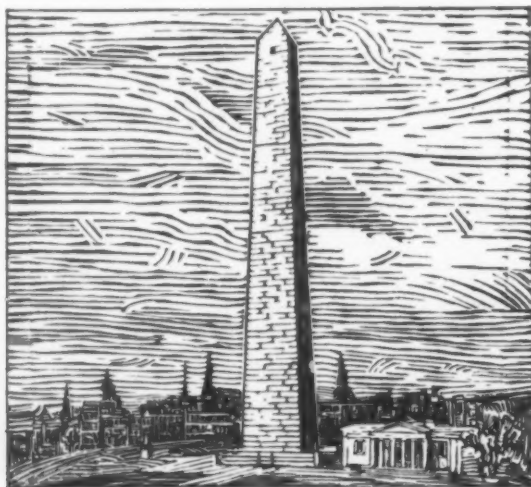
BOSTON Town, you will remember, is nearly three hundred years old, for it was in 1630 that the "Governor and Company of Massachusetts Bay in New England" sent out the first group of colonists headed by John Winthrop. Because the principal men of the colony had lived in Boston, England, the name naturally was selected for their new home in America. Boston has never lost its colonial flavor. The North End, Beacon Hill, Faneuil Hall, the Old State House, King's Chapel, and a hundred reminders still linger, reminiscent of the days before Lexington called the thirteen original colonies to arms.

Parts of Boston proper are still old and full of flavor, much of which has not been swept away by the growth of population and of commerce. One still finds many a monument of historic interest that calls to mind Colonial Days, although large areas, once inhabited by the choice members of Boston's social and literary register, have been completely rebuilt or changed because of demolition and by the great fire of 1872.

Many Places to See

Boston and New England are often called the "Birthplace of the American Nation" because of the historic richness of the region. In and around Boston are many places of attraction to every American who desires some time during his life to visit historic shrines. Space will not allow

*The NATION'S SCHOOLS is indebted to the convention bureau of the Boston Chamber of Commerce for this historic outline of Boston and also for all illustrations used in this and the preceding article.



Bunker Hill Monument

the enumeration of a complete list of these, yet there are certain of them that every visitor to the city ought to see.

Bunker Hill Monument, Monument Square, Charlestown, commemorating the Battle of Bunker Hill, June 17, 1775. Winding stairway of 294 steps to the top. Open from 9:00 a. m. to 4:00 p. m. daily, fee ten cents.

Boston Common. This dates back to the beginning of Boston's history. It is situated in the



Statue of "Minute Man"

heart of the city and is unique among municipal public grounds. Its existence and preservation are due to the wise forethought of the first settlers. Four years after the settlement of the town it was laid out as "a place for a trayning field" and for "the feeding of cattell." A training field in part it has remained to the present day and cattle did not cease to graze on it until the thirties of the nineteenth century. Every attempt to take away part of the land comprising the common or Boston Public Garden adjoining has met with determined resistance by the people of Boston.

King's Chapel and Burying Ground. Tremont and School Streets. The first chapel was built in 1686 and the present one in 1749. Old English architecture. It was the first Episcopal Church in New England and it was here that British officers worshipped during the Siege of Boston. It became a Unitarian Church in 1785. It is open from 9 a. m. to 4 p. m. and there is no charge for admission.

Old State House. Washington Street, head of

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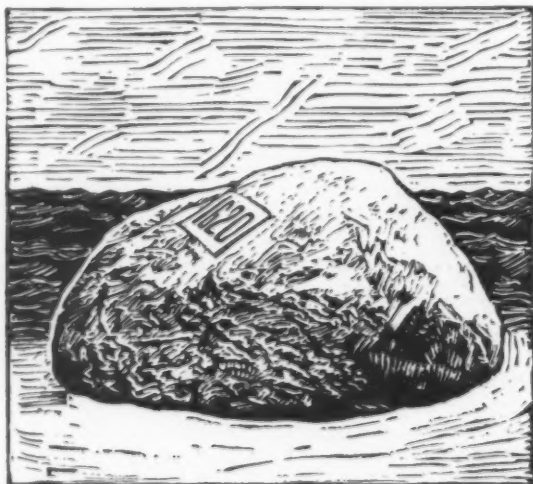
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Grave of Paul Revere

State Street. Here the first townhouse was built in 1657 but it burned in 1711. The present building was built in 1713 and it was here that the colonial courts and legislature met as well as the town and city governments and the general court of the Commonwealth. John Hancock was inaugurated as the first governor of Massachusetts in this building in 1780. In front of it occurred the massacre of Boston and here were the whipping posts and stocks. Open daily from 9 a. m. to 4 p. m. No admission charge.

Old Granary Burying Ground. Tremont Street between Beacon and Park Streets. Here lie most of the personages of historic Boston, including seven early governors, Peter Faneuil, Paul Revere, the parents of Benjamin Franklin, the victims of the Boston Massacre, Robert Treat Payne, signer of the Declaration of Independence, John Phillips, first mayor of Boston, Elizabeth Goose ("Mother Goose"), and many others. The burying ground was called Old Granary after 1737 from the old town granary on the site. of the Park Street Church that adjoins it.



Plymouth Rock

"Old Ironsides" (U. S. Frigate Constitution) launched at Boston in 1797, put into commission in 1798. Saw service in French War and War of 1812. One of the first frigates authorized under the Constitution of the United States, marking the beginning of the U. S. Navy as it exists today. Frigate at Boston Navy Yard, Charlestown.

Faneuil Hall. Merchants Row and Faneuil Hall Square. "Cradle of Liberty," built in 1742 by Peter Faneuil and given to Boston as a town hall. Burned in 1761, rebuilt in 1763. Focus of revolutionary movement in Boston and the colonies. Enlarged in 1805 from Charles Bulfinch's plans. Market below, public hall above and armory of the Ancient and Honorable Artillery Company (chartered 1638) over all. No admission fee. Open from 9 a.m. to 5 p.m. daily.

Boston Tea Party Tablet. Atlantic Avenue at Pearl Street. Commemorates the Boston Tea



Massachusetts Institute of Technology


Party, which was held on December 16, 1773.

Boston Massacre. At the head of State Street, corner of Exchange Street. Here was the scene of the first bloodshed in the American Revolution, March 5, 1770.

Old North Church. Salem Street, foot of Hull Street, where on the evening of April 18, 1775, were hung the lanterns that gave warning of the British march on Concord and Lexington. Open free on application to sexton, 9 a.m. to 5 p.m. daily. Admission to steeple, thirty cents.

In New England were established the first free public schools maintained by taxation. The oldest American colleges are to be found in this region. Boston is still one of the first educational centers of the world.

In the metropolitan area are more than 200 universities, colleges, normal and technical schools, music and art institutions and private schools. Among them are Harvard University, Massachusetts Institute of Technology, Boston



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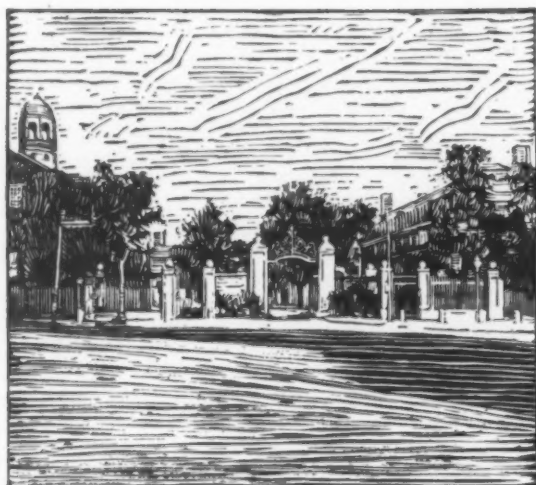
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NEW ORLEANS

CLEVELAND
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The Van Cafeteria of the Bolton High School, Alexandria, La., is one of the country's finest. An exterior view of this splendid school is shown above.





Main Gate, Harvard University

University, Tufts College, Wellesley College, Radcliffe College, Simmons College, Boston College, the New England Conservatory of Music, and the Boston Normal Art School.

Within easy riding distance from Boston can be found the following places of historic interest:

Plymouth, Scituate, Quincy, Lexington, Concord, Provincetown, Sudbury, Cambridge, Williamstown, Fitchburg, North Adams, Mass., Franklin, N. H., Hartford, Conn., and Portland, Maine.

Bill to Regulate Degree-Conferring

The bill to provide further regulation of degree-conferring institutions (H. R. 7951), introduced in the House by Representative Gibson (Rep.), of Vermont, will be taken up for consideration by the District of Columbia Committee after the holiday recess, it was stated orally, December 26 at the offices of the Committee.

The text of the bill as introduced has just been received by the Committee. Its purpose was explained as intended to prevent so-called "diploma mills" from operating.

Character Education in Nebraska

A new Nebraska law requiring character education has been put into operation in the schools of that State, the Bureau of Education, Department of the Interior, stated orally on December 28.

The Act, which was passed by the 1927 session of the legislature, requires that special emphasis be given in schools to morality, courtesy, obedience to law, respect for the constitutions of the United States and the State of Nebraska, "and other attributes which tend to promote upright citizenship," the Bureau said. According to the Bureau, a course of study in conformity with the

Act was recently published by the Nebraska State Department of Education, containing separate outlines for the nursery school and kindergarten, primary grades, intermediate grades, and junior and senior high schools.

As the time provided by the Act for preparation of the course was limited, it was said, the present text is considered tentative, and it is expected that constructive criticism by teachers and citizens will assist in its development.

Virginia Survey Finished

The report of the educational commission appointed in the spring of 1927 by the General Assembly of Virginia for the purpose of making a survey of the educational system of the state was presented the last of December. Prof. M. V. O'Shea, the University of Wisconsin, was selected to organize and conduct the survey. The recommendations for reconstruction of the educational system were approved by the commission and the report was transmitted to the General Assembly early in January.

All departments of the educational system were studied, the survey being organized in ten divisions, with specialists in immediate charge of each division, as well as the investigation of twelve special subjects, principally supplementary educational agencies. The ten divisions with the specialists in charge follow:

Rural Education:

Prof. J. E. Butterworth, Cornell University.

Elementary Education in Cities:

Prof. F. G. Bonser, Columbia University.

Secondary Education:

Prof. Calvin O. Davis, University of Michigan.

Negro Education:

Dr. W. T. B. Williams, Slater Foundation and Tuskegee Institute.

University, Collegiate, and Technical Education:

Dean Frederick J. Kelly, University of Minnesota, Prof. Carson W. Ryan, Swarthmore College, and Prof. M. V. O'Shea.

Training and Certification of Teachers:

Pres. Charles McKenny, Michigan State Teachers College.

Educational Administration and Supervision:

Prof. C. J. Anderson, University of Wisconsin.

Pupil Accounting and Compulsory Education:

Prof. John G. Fowlkes, University of Wisconsin.

Educational Finance:

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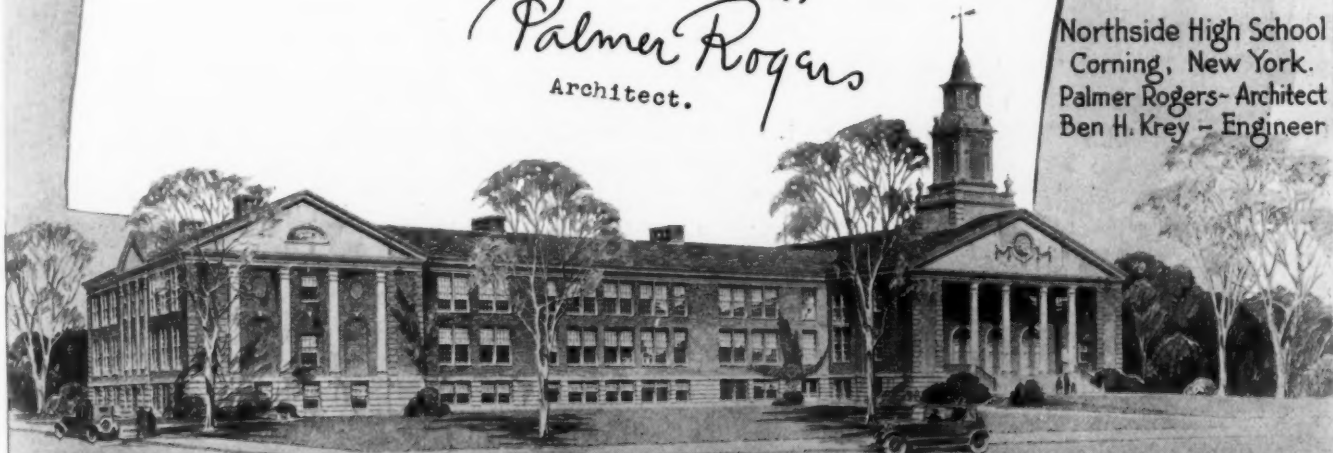
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R. L. Cooley Elected President of Vocational Association

IN MARCH, 1926, the American Vocational Association came into existence through the amalgamation of the National Society for Vocational Education, and the Vocational Education Association of the Middle West. The organization consists of those throughout America who are interested in promoting vocational education, including trade and industrial education, foreman training, vocational teacher training, vocational rehabilitation, home economics, retail store training, vocational guidance, industrial arts, and agricultural education. Its membership includes men from every state in the union, as well as Canada, Mexico, and Hawaii. There are affiliated state organizations in twenty-seven states.

From Saturday, Dec. 17, to Tuesday, Dec. 20, were the days selected for the annual convention, which was held at Los Angeles this year. This is the first meeting of the association in the west, and since President Edward A. Lee is a Californian it was most appropriate that he should give the address of welcome. Great credit is due to him and to his committees for the success of the convention.

Vocational Work in Canada

During the banquet meeting, held in the Hotel Biltmore the first night of the convention, the Canadian program of vocational education was presented by A. W. Crawford, director of technical education of Canada, and an interesting description of Mexico's program was presented by M. A. Bernard, director of vocational education of Mexico. James R. Coxon, director of vocational education from Hawaii, presented the program of that island, and J. C. Wright, director of the Federal Board for Vocational Education of the United States, completed that part of the program by outlining the future of vocational education in America. He further stated that superiority complexes must be eliminated from public education, since the loafer became the criminal, and that the boy with a trade seldom found himself in difficulty.

Many of the eastern visitors greatly enjoyed the opportunity of the side trips to various interesting points about Los Angeles, although the chief spirit of the convention was one of fraternity and work. Earnest groups were found in all parts of the convention seriously discussing various phases of this new education.

Mrs. Susan M. Dorsey, superintendent of the Los Angeles city schools, in speaking on vocational education and the city's welfare said: "In the sweat of thy face shalt thou eat bread." These words if interpreted correctly would be a statement of a simple economic principle, she stated, and if the human race would survive it must work both joyfully and intelligently for the very love of it, this love being based upon pride of craftsmanship and efficiency resulting from intelligent vocational training.

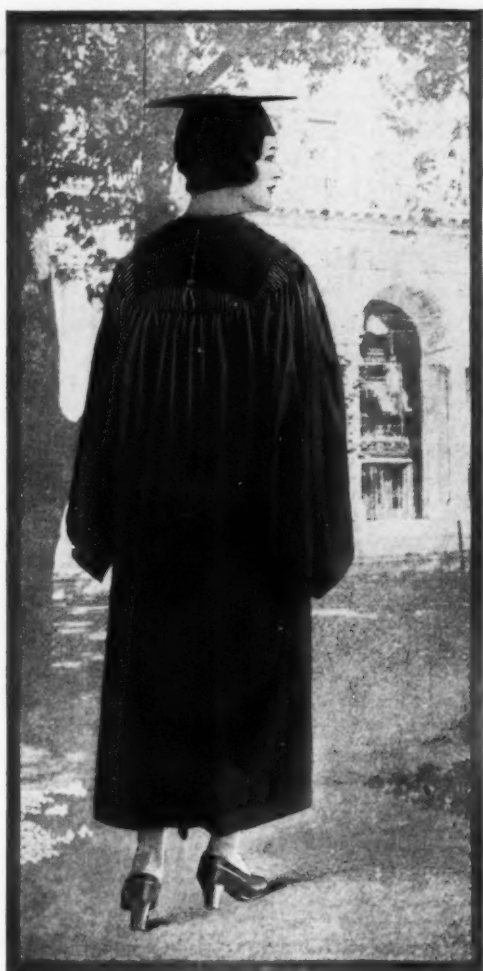
Apprenticeship Discussed

Apprenticeship was discussed by a group consisting of Frank Cushman, chief of industrial education service of the Federal Board for Vocational Education, Wesley J. O'Leary, state director of vocational education for New Jersey, R. H. Beauchamp, representing the Union Pacific Railway, and John A. English, a labor representative on the Chicago Board of Education. This topic forms one of the most vital phases of modern vocational training and occasioned many interesting viewpoints.

Miss Adelaide S. Baylor, chief of the home economics service, Federal Board for Vocational Education, in discussing the part-time school, said: "The part-time school as distinguished from the full-time school is designed to supply education to those whose time is so occupied that only a limited amount may be set aside for this purpose. Cut down and made over full-time courses of study will never be acceptable for instruction in part-time schools. The needs of the pupils must be discovered, and a corresponding educational provender provided." For older girls emphasis would be placed upon co-operation in family and community life, and the vocation of home making.

Experience in California

Wm. John Cooper, superintendent of public instruction in California, spoke on the "Destiny of Industrial Arts in the Senior High School," and stated that: "Our experiments with high schools of commerce and manual arts have not fulfilled our hopes and expectations. Separate trade schools offering courses both day and in the evening seem to offer a solution. Such schools can break completely with the traditions of the high school. Where this cannot be done it will



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be necessary to reorganize the whole school system to give to each unit of that system a set up of objectives with which to work. On the other side of the present senior high school we have a successful junior high-school system." He then outlined a possible program of school reorganization provided for both manual arts and vocational education.

Essential to Democracy

H. B. Wilson, superintendent of schools of Berkeley, Calif., speaking upon the topic, "The Place of Industrial Arts in the Public School Program," stated that industrial arts were essential to a democratic education; that they were a part of general education, and not specific in content as in the case of the vocational training that may follow. He stated that the industrial arts subjects increase opportunities for success on the part of all children, since the child could vocationally discover himself, and that through interpreting environment the child became enriched both individually and socially.

Charles R. Allen, vocational consultant of the Federal Board for Vocational Education, in speaking of foreman training conferences, said: "The minor executive in industry, or in commerce, is the non-commissioned officer who is on the firing line with the men." He pointed out that this being the case the future of modern industry depended upon this officer being vocationally trained to work intelligently both in regard to industrial relations and economic problems.

Agricultural Education

H. M. Skidmore, speaking on agricultural education, said that, "Our big concern is not so much with the number who migrate to cities as it is with the quality of those who remain on the farm." He pointed out the need for intensive training of those adhering to the agricultural life.

All three days were filled with vital material. R. L. Cooley, director of vocational education of Milwaukee, Wis., was elected president for 1928. The assembled congress voted to petition Congress to appropriate funds for farm education. A suggestion to Congress for help in part-time education was also advocated. The suggestion was made that the A. V. A. ask for the co-operation of the National Association of Office Managers in the creation of a standard commercial terminology. The house of delegates thanked Los Angeles and the association's committees for the thorough manner in which it had provided for the comfort and enjoyment of those attending, and for making the convention so successful.

Cranbrook Schools Endowed by Booth

Papers have been filed in Pontiac, Mich., by which George G. Booth, the newspaper publisher of Detroit, establishes the Cranbrook Foundation, to complete an educational and cultural center comprising five schools and a church on his country estate, twelve miles beyond the northern boundary of Detroit, in the Bloomfield hills.

The sum involved is more than \$6,500,000. In addition Mr. Booth and his wife, Ellen Scripps Booth, daughter of the late James E. Scripps, who founded the Detroit News in 1873, have already given to the same project funds amounting to more than \$5,000,000.

In establishing the Cranbrook Foundation Mr. Booth has completed disposing of almost his entire property, gained by a half century of labor and saving.

Small Colleges Limiting Aims

The small college and the denominational college have turned aside from attempts to rival large institutions and are limiting their aims to specific service for their students, the Chief of the Division of Higher Education, Bureau of Education, Dr. Arthur J. Klein, has just stated.

Inadequate adjustment to modern educational conditions on the part of the small college, Dr. Klein says, has been due not to lack of ideals but to failure to examine institutional objectives, "in the light of social and economic facts determined and interpreted in the scientific rather than the emotional spirit."

He states that he believes that objectives scientifically defined and embodied in practical programs will, under present conditions of wealth and generosity, bring support to the small as well as the large institutions, thus enabling them to more nearly approach their objectives.

Coolidge Discusses Federal Aid

President Coolidge believes that Congress would be very loath to divert to State universities appropriation of Federal funds that are now being devoted to agricultural colleges located throughout the country.

This statement was made officially on behalf of President Coolidge at the White House on December 20 in commenting on the conference he held December 19 with C. C. Little, president of the University of Michigan, at which Federal aid for state educational institutions was discussed and such a remedy was suggested.

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Good health made so attractive that a child follows health rules from choice. Appeal is made to interest in play and avoidance of pain and sickness. The topics discussed include health habits in eating, sleeping, exercises, etc. Grades 3-5, 254 pages. \$0.80.

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Arouses the child to activity in keeping himself and everything about him clean as a safeguard against disease. Important facts illustrated with photographs or drawings. Grades 5-6, 279 pages. \$0.80.

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Complete textbook in elementary physiology. All phases of bodily care are treated in simple but scientific way. All discussions are concrete and simple. Thoroughly up-to-date and well illustrated. Grades 6-8, 376 pages. \$0.96.

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Discusses the adaptation of habits to modern conditions of living and shows the relation between health and getting the most out of life. Grades 7-8; 347 pages. \$0.96.

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The essentials of physiology presented in such a way as to enable high school pupils to live effectively and well. The material is organized around functions of the human body. Hygienic methods of living are emphasized. The subject matter is thoroughly up-to-date and practical. \$1.80.

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Elementary Schools Start Latin and French Classes

Introductory courses in Latin and French have been started in the city elementary schools of British Columbia, it was stated orally on January 3 by the Bureau of Education, Department of the Interior.

This step, the Bureau said, is in conformity with recommendations growing out of a recent educational survey of the Province, looking toward the gradual introduction into elementary schools of certain subjects usually considered of secondary grade. These two courses are the first to be inaugurated.

The courses are given by special teachers, it was said. They are optional, but it is expected that pupils anticipating the study of the languages in high school will take the introductory work in the elementary grades, thus securing better foundation for secondary work.

Tendency to Reduce School Committees

City boards of education throughout the country are showing a tendency to reduce standing committees or to abolish them, the Chief of the City Schools Division of the Bureau of Education, W. S. Deffenbaugh, stated on December 22.

Authorities on school administration recommend that such committees be abolished, Mr. Deffenbaugh said. He quoted a number of opinions on the question by educators throughout the country and stated:

"The tendency among city boards of education is to reduce the number of standing committees or to abolish them. Of forty-one boards of education in cities of 100,000 or more population reporting to the Bureau of Education, in 1917, only three had no standing committees; of fifty-five boards of education in cities of this size reporting in 1927, twenty-one have no such committees. The average number of standing committees in each of the cities reporting in 1917 was 5.6 and the average number in the cities reporting in 1927 is 3.4.

"Of twenty-five boards of education in cities of 100,000 or more population reporting both in 1917 and 1927, eleven have reduced the number of standing committees, and nine have abolished them or else have constituted the board as a committee of the whole. Five have increased the number. The average number of standing committees in each of these twenty-five cities in 1917 was 6.4 and in 1927 the average number is 3.5."

Propose Alpine University for Tuberculous Students

A proposal has recently been submitted by Prof. J. Kollaritz to the International Commission for Intellectual Co-operation of the League of Nations that an Alpine university of polynational character shall be established by the League at Davos, Switzerland, for the benefit of tuberculous students.

The object of the proposed university is to enable these students, who are now studying under unfavorable climatic conditions, to pursue their studies in a most favorable climate without losing the time devoted to a cure.

Vocational Training Sound, Says Davis

Vocational education represents a distinct addition to the nation's educational program designed to meet the needs of the great mass of working people, and to that extent represents one further step in the democratization of the educational system of the country, according to a statement made public December 28 by the Secretary of Labor, James J. Davis, Chairman of the Federal Board for Vocational Education.

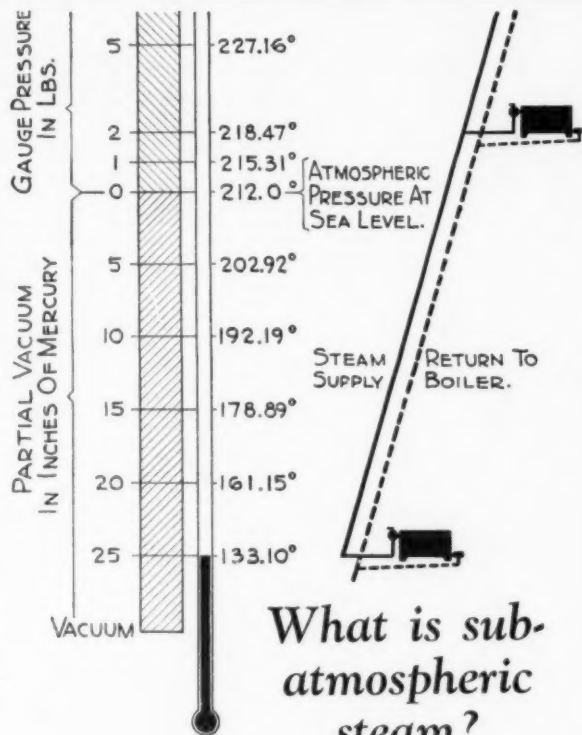
Secretary Davis called attention to the fact that, while in the past the working people have been compelled to look largely to private agencies for vocational education, the present program of the Board is designed to relieve them of the necessity of paying for such education and to enable them to obtain it at public expense.

Costs \$1,410 a Year to Attend Cornell

The average cost of one year in Cornell University is \$1,410, according to the most comprehensive study of the cost of a college education ever undertaken by the university administration officers.

An analysis of reports filed by 3,118 students, about three-fifths of the total resident in Ithaca, shows that the cost of an education is a considerable item in the family budget, though Cornell has never been known as a rich man's university.

Average cost of living in fraternity and sorority houses was but slightly higher than in the university dormitories or boarding houses. The total includes all expenses incurred during the year, such as tuition, fees, books, room and board, dues, clothes, traveling expenses and incidentals.



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SUB-ATMOSPHERIC steam is steam generated at pressures below atmosphere and which in a Dunham System flows to all radiators quickly and quietly at a rate and temperature which assures comfort, irrespective of changing weather out of doors.

Sub-atmospheric steam is supplied at temperatures as low as the water temperature in a hot water heating system, or at the temperature of vapor heating (depending on requirements of mild or severe weather). The diagram reproduced here illustrates the reduction in the temperature as the pressure is reduced.

At atmospheric pressure water boils at 212°, whereas the Dunham Differential Vacuum Heating System circulates steam as low as 133°. This corresponds to 25 inches of vacuum by the gauge. The sub-atmospheric pressure being carried on the system will be shown on the vacuum side of gauge on the boiler.

This system is without a peer in its flexibility of control and in the ability of the radiators to operate efficiently under these wide variations

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U. S. Patent No. 1644114. Additional patents in the United States, Canada and Foreign Countries now pending.

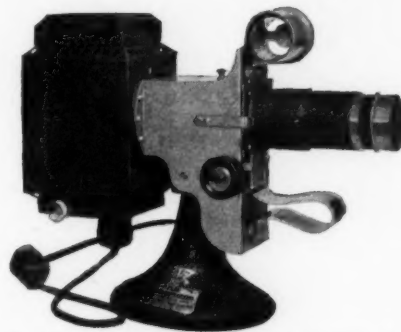
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Personals

HORACE M. BUCKLEY has succeeded H. D. BIXLEY as assistant superintendent in charge of elementary schools, Cleveland. Mr. Bixley is now the headmaster of the Utica, N. Y., country day school.

JOHN M. FECHER, formerly principal of the Essex County, N. J., Vocational School at Montclair, N. J., has been appointed state supervisor of foreman training.

CLARENCE C. HITCHCOCK, formerly supervising principal of schools, Bridgeton, N. J., is now the supervising principal of schools, Hasbrook Heights, N. J. He succeeds WARD C. MCCROSKEY.

DR. L. B. MCMULLAN, formerly head of the department of education, University of Kentucky, is now president of the new state teachers' college, Billings, Mont.

C. C. NARDIN has resigned as superintendent of schools, Wapakoneta, Ohio, due to ill health.

ROY W. CLOUD, formerly superintendent of schools, Redwood City, Calif., is the new secretary of the California Teachers' Association, succeeding ARTHUR C. CHAMBERLAIN.

JOHN GILL, vice-president of the Redwood City high school, has been appointed superintendent of schools, Redwood, Calif., succeeding ROY W. CLOUD.

DR. FREDERICK E. DOWNES, superintendent of schools, Harrisburg, Pa., from 1905 to 1923, is the new superintendent of Beckley College, Harrisburg.

E. L. BOWSER has been elected superintendent of schools, Ashland, Ohio.

HARRY E. SCHWALL has been elected superintendent of schools, Wauseon, Ohio, to succeed E. L. BOWSER.

JEROME BURTT, formerly principal of the senior high school, Framingham, Mass., has been named principal of the high school at Grosse Point, Mich., and assumed his new duties on December 1.

OSCAR L. DITTMER has been named principal of the Mount Sterling, Ill., high school.

D. R. FRASHER, formerly principal of the Ashville, Ohio, high school, has been named superintendent of schools, Geneva, Ohio.

M. B. SELF has been appointed superintendent of schools, Westminster, S. C.

C. B. HUGGIN has been appointed superintendent of schools Willston, S. C., to succeed M. B. SELF.

WAYNE W. CURFMAN, formerly superintendent of schools at Lincoln, Neb., has been named superintendent of schools at Lawrence, Kans., succeeding HARRY P. SMITH.

FRED POWELL, formerly manual training teacher, Union high school, Las Cruces, N. M., has been named superintendent of schools.

CHESTER ROBBINS, formerly principal of the Bridgeton, N. J., high school, is now superintendent of schools, succeeding C. C. HITCHCOCK, resigned.

L. PAUL MILLER, formerly principal of the senior high school, Kirksville, Mo., has been appointed superintendent of schools, Adrian, Mo.

LOUIS DICRUFF, formerly principal of the Wolfe junior high school, Allentown, Pa., has been appointed principal of the Central junior high school.

CLAYTON M. OLSON, formerly superintendent of schools, Scarville, Iowa, is the new superintendent of schools at Boyd, Minn.

CHARLES P. HARPER, formerly principal of the high school, Belington, W. Va., is the new superintendent of the Romney schools.

ROBERT B. LEE of Belle Plaine, Iowa, has been elected superintendent of schools, Rawlins, Wyo., succeeding G. C. BRUTON.

F. L. TEAL has been appointed superintendent of schools, Wheeling, W. Va. Mr. Teal was formerly a director of the normal school and assistant superintendent of schools at Canton, Ohio.

JANE M. WARD is now county rural supervisor of Sonoma County, Calif., succeeding NELLIE M. MEAD, who is now county rural supervisor, Alameda County.

RAYMOND SCHLOSSER, formerly a teacher in the West Philadelphia high school, is the new principal of the junior high school, Haverford, Pa.

FRANK H. PAINTER has been appointed superintendent of schools, Jersey Shore, Pa.

Where Silence Is Golden

*Doors Must
Assure It*



FLUSHWOOD

(PATENTED)

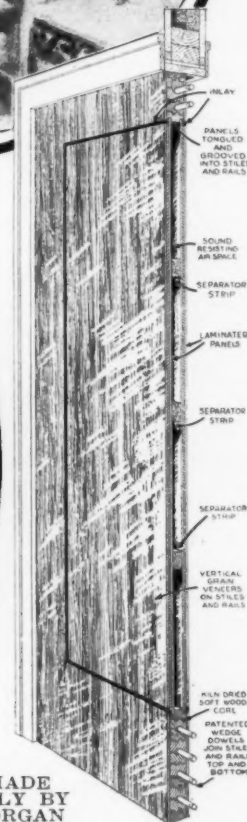
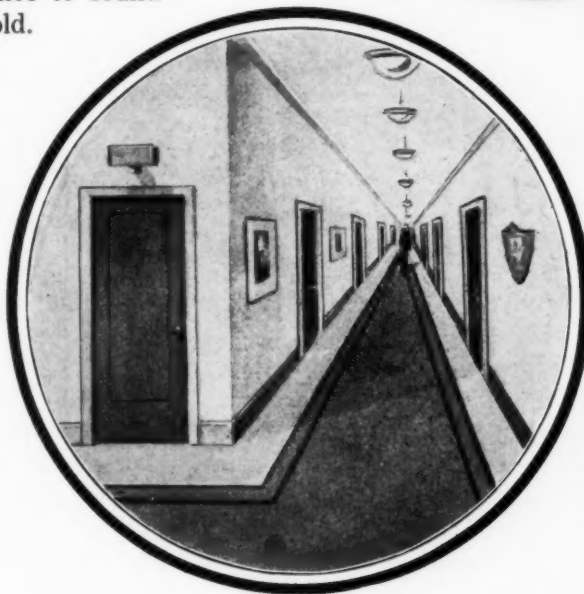
IN the study hall and classroom alike, silence is golden. Nothing distracts attention so much as outside noises and disturbances coming into a room where scholars are concentrating on important lessons.

Yet hallways must be used continually. The noise of hurrying feet—the hubbub of voices—all these must go on while quiet remains in the classroom.

Flushwood—the sound resistant door—is the solution of this problem. Much more efficient than any other type door in its resistance to sound—a guardian of quiet at the threshold.

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CLARENCE E. TOOLE, has been appointed superintendent of schools, Lehigh, Pa.

CHARLES C. MADEIRA, has been appointed superintendent of schools, Schuylkill Haven, Pa.

FRANK S. WAGNER has been appointed superintendent of schools, Salem, S. D. He was formerly superintendent of schools, Estelline, S. D.

NICHOLAS GUNDERSON, superintendent of schools, Sparta, Wis., was elected president of the Western Wisconsin Teachers' Association.

R. L. IRLE, formerly superintendent of schools, Wells, Minn., has been appointed superintendent of schools, Glasgow, Mont.

FRANK P. HOPPER, county superintendent of Luzerne County, Pa., from 1899 to 1925, died at his home in Kingston, Pa., in November.

J. E. TOLBERT has accepted the principalship of the high school at Clarkston, Wash. He was formerly at Elk River, Idaho.

M. CHANNING WAGNER, principal of the high school, Wilmington, Del., was recently elected president of the Delaware State Education Association.

A. F. HARMAN, formerly county superintendent of schools Montgomery, Ala., has accepted an appointment as director of educational administration in the state department of education.

DR. SPRIGHT DOWELL has resigned as president of the Alabama Polytechnic Institute.

Who Makes Recommendations?

In general, the recommendation of teachers for election is presented to the school board by the superintendent; but in about one-tenth of the cities the recommendation is made by a committee of the board. It is sometimes made jointly by the superintendent and such a committee, according to H. S. Ganders in *Bureau of Education Bulletin No. 18*.

The attendance of teachers is reported to the pay-roll officer by the superintendent in two-thirds of the cases, and by the principal in the remainder. Sometimes the principal and superintendent co-operate in the performance of this important duty.

In the rating of teachers, the superintendent participates in four-fifths of the cities, the elementary school principal in two-fifths, and the board of education in one-tenth. Whenever two authorities jointly perform this function, it is generally the superintendent and principal.

Protecting the Advance

"Does the superintendent have the power of leadership or does he shape his policies to suit the opinions of some few influential citizens or board members? This is a question school boards are beginning to ask. The superintendent can no longer be considered a mere figurehead. He must formulate policies, present them to the board, and if necessary, fight for their adoption. No school board member should condemn a superintendent for making a strong appeal for certain policies; rather he should admire him. This does not mean that a superintendent who is always fighting for some reform is to be regarded as a successful superintendent. School boards are coming to realize that, as a rule, the superintendent who accomplishes the most, who places the schools on a sound foundation, is one who makes few reforms at a time, one who tests each step so that there can be no retreat, or, if there is a retreat, he utilizes it to secure a better point of attack."—W. S. Deffenbaugh, *Bureau of Education Bulletin No. 2*.

The Janitor's Importance

Some well-known specialists in education are of the opinion that the janitor is about the most important person in a school system. Doctor Dresslar says: "The janitor of a modern school building is, next to the principal, perhaps the most important officer in the school." Terman expresses the same opinion in the following language: "The position of janitor is a very responsible one; no other individual about the school building, unless it is the principal, has so much influence over conditions that affect the health of pupils. Another eminent school authority says: "A good janitor is harder to replace than a good teacher, and in most cases than a good principal."

A Vital Factor

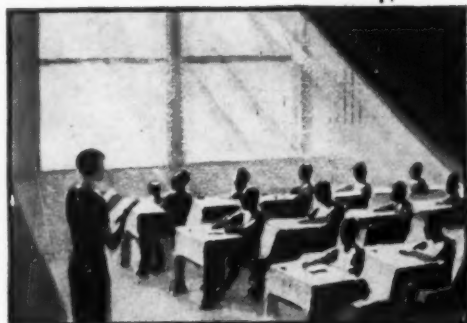
These statements are not extravagant. Most people, however, fail to realize their truth; in fact, most people never go so far as to give the subject any thought at all—not even the mothers and fathers of the children. That school boards do not have an adequate conception of the importance of the janitor as a school officer is evidenced by the fact that most janitors are still selected and appointed for personal or political reasons rather than on the basis of merit; and, strange to say, a great many superintendents and principals also fail to appreciate the importance and responsibility of the janitor as a vital factor in education.—J. A. Garber, *Bureau of Education Bulletin No. 24*.

AVENUES of HEALTH

in the Smethwick School

How VITA GLASS, a remarkable new window glass, helped to increase weight and height and to improve health of students in English school

Vita Glass in the windows of this schoolroom would assure the passage indoors of the vital, health-giving ultra-violet rays which exist in sunlight, cloudshine and skyshine.



AN English scientist made an amazing discovery. He found that a window glass could be made which would transmit indoors the vital ultra-violet rays of daylight shut out entirely by ordinary glass. In Vita Glass he gave to schools a means of bringing to pupils these rays, which build stronger, healthier bodies, stimulate physical and mental activity, and thus make better and happier pupils.

In June, 1925, a most convincing test of the value of Vita Glass was started in a school in Smethwick, England. A class of boys between nine and eleven years was placed in a Vitaglazed classroom. A second class of the same age, and the same mental and physical character, was put in an adjoining room in which windows held ordinary glass. The heights and weights were taken at the start of the test and again at the end of ten months.

The results were astonishing. Pupils in the Vitaglazed room gained an average of 6.11 pounds against 2.83 pounds in the other class. The gain in height was 1.86 inches against 1.52. Absences due to illness were greatly decreased in the Vitaglazed room.

VITA GLASS

Each pane is cut to size, etched with the name Vita and bears the trademark label.

Class in Vitaglazed room	June 1, 1925	March 31, 1926	Average Gain
Average weight	67.90 lbs.	74.01 lbs.	6.11 lbs.
Average height	54.06 inches	55.92 inches	1.86 inches
Decrease in percentage of absences 5.51%			

Class in room with ordinary panes	June 1, 1925	March 31, 1926	Average Gain
Average weight	60.04 lbs.	62.87 lbs.	2.83 lbs.
Average height	51.78 inches	53.31 inches	1.52 inches
Decrease in percentage of absences 1.78%			

Just one more example

Other schools are proving even more convincingly the ability of Vita Glass to bring indoors to growing bodies nature's most effective tonic. With Vitaglazed windows school children need no longer suffer the devitalizing effects of being shut indoors for many hours a day, winter and summer, untouched by the vital ultra-violet rays which exist in sunlight, in cloudshine and skyshine, and which the medical profession and scientists say their bodies need so badly.

Try Vita Glass in your school. Test the results as the Smethwick School did and prove its value for yourself. Vita Glass is clear window glass . . . no different in appearance from the glass you now use . . . as easy to install as were the ordinary panes. Its slightly higher cost is more than offset by its health advantages.

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Let us send you complete data about Vita Glass. The coupon will bring full information quickly. Send the coupon today to the Vitaglass Corporation, 50 East 42d Street, New York City.

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Training in Trades for Detroit Boys and Girls

A year's intensive training in all-day classes in machinists' or auto mechanics' trades in Detroit is available to boys fifteen years of age or more who possess the mechanical and mental ability to become skilled mechanics. Courses of study and hours are planned to meet state and Federal requirements, and upon completion of the courses certificates are granted and the boys are placed as apprentices. During the past school year eighty-five boys qualified for certificates.

All-day trade classes, training for life work in the home or industry, have been arranged for girls who are deemed by counselors and principals better fitted for instruction of this character than for regular work in grade schools. Dress-making and millinery, preparatory to apprenticeship, cafeteria work, and home making are taught. Academic work fitted to the girls' needs and abilities is given, and is closely related to laboratory courses.

Increase of College Students

Enrollment in American colleges and universities has increased twenty-five per cent in the last five years, according to tabulations received by Dean Raymond Walters of Swarthmore college. The figures are from 211 institutions on the approved list of the Association of American universities, showing their registration for November 1, 1927, as compared with November 1, 1922.

Dean Walters reports that forty-two of the largest universities—those having more than 3,000 students—have expanded twenty-eight per cent. The smallest increase, fifteen per cent, was in the fifty-five smallest colleges. In their enrollment of full-time students these 211 institutions have a total of 410,712, or an increase of 81,859 in the last five years.

In numerical rank the University of California and Columbia University hold the lead. California's enrollment, including both Berkeley and Los Angeles divisions, is 17,311. Columbia has an enrollment of 13,275. In grand total enrollment, including 1927 summer school and part-time students, Columbia leads the country with 32,244 and California with 25,534.

The University of Illinois, with 12,033 students, stands third in full-time enrollment; the University of Minnesota is fourth with 11,307; and New York University is fifth with 10,218. The full-time enrollments of other large universities are: Ohio State, 10,035; Michigan, 9,700; Wisconsin, 8,942; Harvard, 8,030; Pennsylvania, 7,565;

Pittsburgh, 7,414; University of Washington (Seattle), 7,353; Nebraska, 6,239; Chicago, 5,718; Texas, 5,536; Northwestern, 5,421; Cornell, 5,355; Iowa, 5,345; Fordham, 5,243; Syracuse, 5,012; and Yale, 5,007.

The largest exclusive women's colleges are: Hunter College, New York City, 4,041; Smith, 2,077; Wellesley, 1,533; Simmons, 1,416; Florida State College for Women, 1,401; Vassar, 1,149; Goucher, 1,053; Mount Holyoke, 987; Radcliffe, 900; and Randolph-Macon Women's College, 845. The largest groups of women in co-educational universities are: California, 5,690; Wisconsin, 2,879; Illinois, 2,145; Minnesota, 1,884; and Michigan, 1,652.

The size order of summer schools for the 1927 season was: Columbia, 13,857; California, 9,857; Chicago, 6,474; Minnesota, 5,444; and Wisconsin, 5,165.

School Building Construction

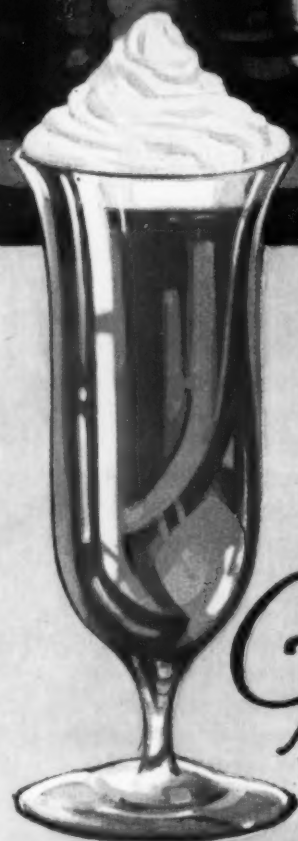
Figures just released by the *Architectural Forum* indicate that during 1928 there will be expended for school buildings in the United States, \$569,172,000. School building ranks third on the list of expenditures and is exceeded only by apartment houses and office buildings. The total amount estimated for 1928 expenditures is \$6,505,128,000.

Greater activity in school building during the coming year will be experienced in the North Atlantic States, in the South Eastern States, and in the South Western States. Slight decreases are noted in the North Eastern States, in the Mid-western States, and in the Western States. School building generally in 1928 will be on a par with that of 1927, there being an almost imperceptible decrease noted.

The greatest increase in school building for the coming year as indicated by this prognostication will come in the South Eastern States where it is estimated that 21.6 per cent of all building done in that section of the country will be in school construction. In 1927 this percentage was but 13.8.

The second large increase will be in the North Atlantic section where 11.4 of all building will be school building, an increase of 3.3 per cent.

More money will be expended for the construction of school property than will be spent for theaters, banks, clubs, and welfare institutions combined. Two and three-quarters as much money will be spent for school buildings as will be spent for churches. More than twice as much will be spent for schools as for industrial buildings.



*T*HERE'S an intangible something about Gumpert's Gelatine Dessert that distinguishes it from the ordinary kind. Perhaps it's the elusive fresh-fruit flavor; perhaps the sparkling transparency of finest quality gelatine; perhaps the clear brilliancy of color. But you immediately realize, with your first taste, that Gumpert's is the aristocrat among gelatine desserts.

Gumpert's



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Dessert*

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Wait Till You Taste It!

“JUST dip your spoon into this Chocolate Cream dessert, Jack—there’s a surprise coming to you! It’s real *chocolaty* chocolate—smoother, creamier, more luscious than you’ve tasted. Say, boy, it’s *great!*”

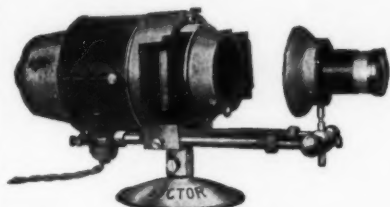
“The fact is, I’m told, this Chocolate Cream Dessert is the hit of the menu.—And, I don’t wonder at that! Honestly, old man, did you ever taste anything so delicious, so velvety-smooth, such chocolate, and so creamy?”

*If you are not already acquainted
with Gumpert’s Cream Desserts,
we will gladly send you a sample.*

Gumpert's  **Cream Dessert**

A PRODUCT OF S. GUMPERT CO., INC., BROOKLYN, N. Y.

For Every Projection Need, Specify the Victor (Classroom or Auditorium)



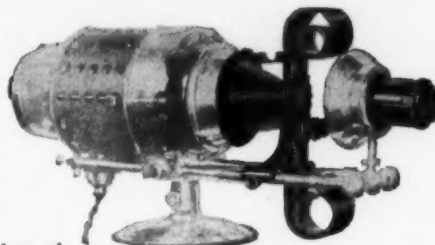
Model 2
Victor Portable Stereopticon
—capable of projecting a big, clear, brilliantly illuminated 12 foot picture at any distance up to 80 feet from the screen.
Price complete\$56.00



Microscopic Attachment
—A Low Power Microscopic attachment for the projection of microscopic slides with a Victor lantern.
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Write for further information and Catalog of
Lantern Slides

VICTOR ANIMATOGRAPH CO.
344 Victor Bldg. Davenport, Iowa



Film Slide Attachment
—may be fitted to any Victor lantern for the showing of film slides.
Price complete with lens..\$25.00

NOTICE

There is a subscription blank enclosed in this issue. Use it to enlist a friend or associate who will find practical value in the service rendered by The NATION'S SCHOOLS.

Because the appeal of this publication is to school executives we cannot honor subscriptions from those who do not have administrative responsibilities. Perhaps a friend of yours—a superintendent, a principal, a business manager or the President of your school board—would appreciate the coming twelve issues of this magazine.



An Applicator Bottle

furnished with our compliments in your own medicine cabinet will soon convince you that

MERCUROCHROME—220 SOLUBLE

(dibrom-oxymercuri-fluorescein)

IS THE

Logical Successor to Tincture of Iodine

FOR

First Aid Prophylactic and General Antiseptic Use

Mercurochrome stains as Iodin does, and it is the stain of Mercurochrome, as it is of Iodin, that shows just where and how effectively the germicide has been applied; it fixes the bactericidal agent in the field for a relatively permanent period which prolongs the asepsis or the sterilizing effect, and it provides for demonstrable penetration into the tissues beneath the superficial surfaces. Inasmuch as Mercurochrome is definitely proved an extremely efficient general antiseptic, it is only reasonable to consider it the successor to Iodin in this field, as it is free from the objectionable features of Iodin, for

MERCUROCHROME DOES NOT IRRITATE, BURN OR INJURE TISSUE

SELL YOURSELVES FIRST

**HYNISON, WESTCOTT
& DUNNING**
BALTIMORE, MD.

HYNISON, WESTCOTT & DUNNING,
DEPT. N, BALTIMORE, MD.

Please send me Mercurochrome Applicator Bottle for
personal use.

Name

Business Address

Causes of School Building Fires

The following table shows the causes of fire in each of the several classifications of school building types. The table of fire causes indicate that schools are not particularly different from other occupancies, as the more common fire hazards head the list. Eight items are responsible for 217 out of 285, or seventy-six per cent, of the fires for which the cause is reasonably well known, according to the *Quarterly* of the National Fire Protection Association.

Smoking appears to be a relatively minor hazard in high- and elementary school buildings, but causes most of the fires in dormitory and miscellaneous buildings where smoking is usually unrestricted. Spontaneous ignition commonly takes place in rubbish accumulations, especially when these contain oily sweepings or rags. There are more fires due to this cause in high-school and laboratory buildings because chemicals that ignite spontaneously are often used or stored in the laboratories.

Defective Heating Apparatus

Defective heating apparatus seems to be more frequently a cause of fire in the public schools than in the other types of buildings, whereas defective flues or chimneys are an important cause of fire in all the occupancies.

It is interesting to speculate on why there should be such a large proportion of incendiary fires in elementary schools. Many of these, the reports quite definitely state, were set by children. In a few cases the fires were set to cover up

thefts, although this proved to be a relatively unimportant factor.

The number of fires on wooden roofs from chimney sparks confirms the already existing evidence that wood shingles are unsuited to use as a roof covering. Many of these fires were in rural schools where a lack of fire protection allowed the complete destruction of the building. City schools and schools of considerable size are ordinarily provided with fire retarding roofings.

Need for Good Housekeeping

The table below demonstrates the need for good housekeeping in all types of school. Cleanliness would make most of the fires from such causes as smoking and spontaneous ignition, which head the list, practically impossible instead of probable to a great degree.

The leading causes as shown by the above table being smoking and spontaneous ignition, both the usual result of untidy conditions, emphasize the need of attention to good housekeeping by school administrators. So many fires, too, from defective chimneys and heating apparatus show that an annual inspection and repair of all heating equipment, flues, and chimneys is necessary. The record further emphasizes the importance of fire-resistant roof coverings and, in the case of isolated buildings, of lightning protection. The large proportion of fires of unknown cause does not indicate any mystery inherent in the origin of school fires; many of the fires here reported as of unknown cause could doubtless have been assigned to some definite cause if they had been promptly investigated by an experienced fire inspector.

CAUSES OF SCHOOL FIRES
Number of Fires in Each Kind of School Building

Source	High	Elementary	Classroom Buildings	Dormitories	Shops, Labs.	Misc.	All
Smoking	3	4	5	11	2	12	37
Spontaneous ignition	11	5	3	5	7	2	33
Defective heating apparatus	10	14	—	4	4	1	33
Defective flue or chimney	4	8	2	10	3	5	32
Incendiary	6	14	2	5	—	1	28
Defective wiring	9	5	4	3	2	3	26
Sparks from chimney on wooden shingle roof.....	2	8	1	3	—	2	16
Lightning	1	3	2	3	—	3	12
Exposure	—	5	—	1	1	1	8
Rubbish ignited—cause not known.....	1	3	—	1	—	—	5
Roofers furnace or torch.....	1	1	2	1	—	—	5
Spark from stove or fireplace.....	—	1	—	1	—	3	5
Motion picture film ignites in machine.....	—	1	—	—	—	2	3
Bunsen burner	—	—	1	—	2	—	3
Matches	—	1	1	1	—	—	3
Plastic flooring solvent ignited.....	2	—	—	—	—	—	2
Steam pipe ignites woodwork.....	1	—	—	—	—	1	2
Phosphorus	1	—	—	—	1	—	2
Illuminating gas ignited	—	1	—	1	—	—	2
Overheated oil baths	—	—	—	—	2	—	2
Miscellaneous known causes.....	4	6	2	7	5	2	26
Unknown	49	69	29	52	18	22	239
Total	105	149	54	109	47	60	524

Sound-Proofing in Schools

SILENCE is a positive thing—noise is negative. In common parlance, silence means consent. It signifies smooth going, a harmonious working together of every part. *Silence is golden! It is a valued asset.* Noise, on the other hand signalizes opposition, rough-going, discord. It is dross, waste. *Noise is a definite, costly liability in the schoolroom.*



Boys' Gymnasium, Mt. Clemens High School, Mt. Clemens, Mich. J. C. Llewellyn & Co., Architects. Stevens System used under floor to provide springy surface and remove shocks of impact.

In principle, the Stevens System of Sound-Proofing for floors is simple. A pressed steel chair, lined on three sides with a felt cushion, supports the nailing strip, keeping it from contact with either the chair itself or the larger floor supports. The finished floor is then laid and nailed to the nailing strips. Dry Screened Cinders or other approved cellular material is used to eliminate drum effects in the dead air space of the floor. Any medium of floor material may be used—wood, concrete, terrazzo, etc. The Stevens System can be used throughout in the walls and ceilings as well. It has today found enthusiastic preference by leading architects everywhere.

Address inquiries to

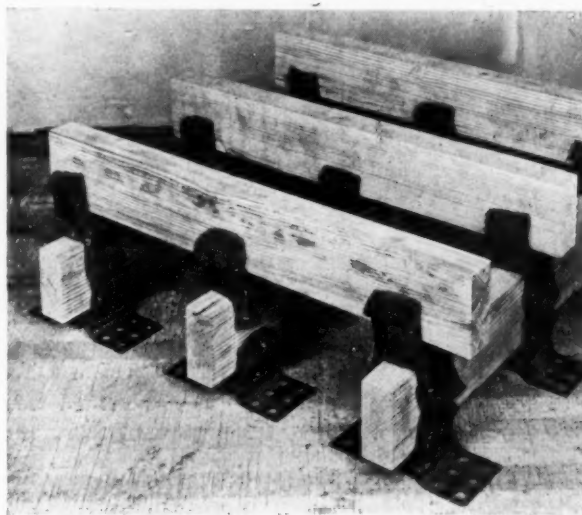
Stevens Sound-Proofing Company

407 So. Dearborn Street

CHICAGO, ILLINOIS

The Stevens System—is the only method of sound-proofing based on a strictly scientific principle of sound and vibration control. A method of construction and an engineering service—not a material—and sold on a basis of guaranteed results.

Its Use In Schools—The Stevens System is widely used to provide resilient, sound-proof gymnasium floors, and for anti-vibration platforms under motors, ventilating apparatus and all types of machinery. Also on floors, partitions and ceilings of classrooms.



Method of constructing Stevens anti-vibration platforms, under vibrating machinery. No solid contacts. Machinery absolutely isolated from building.

THE Columbia Indestructo Line of Sani-Steel desks and chairs has been developed to meet the changing needs of the school. There is a kind and type for every use, inherently well-designed and constructed for permanence. We have faithfully tried to build better and stronger desks and chairs and invite your careful scrutiny of our products.

Write for catalogs. We have many innovations to offer you at a range of prices to suit every budget.

COLUMBIA SCHOOL SUPPLY CO.
INDIANAPOLIS, IND.

JARVIS & JARVIS, Inc.

SCHOOL RESTAURANT DISH SERVICE WAGONS

With Removable Trays



START the New Year fully equipped to operate the School Lunch Room on an efficient basis. Jarvis & Jarvis, Inc., Dish Service Wagons are especially constructed to withstand hard and continued usage.

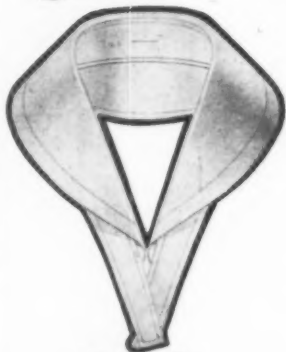
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THE Removable Shelves or Trays save double handling and consequent breakage. All wagons are mounted on ball bearing, rubber-tired wheels—noiseless, easy running, unbreakable.

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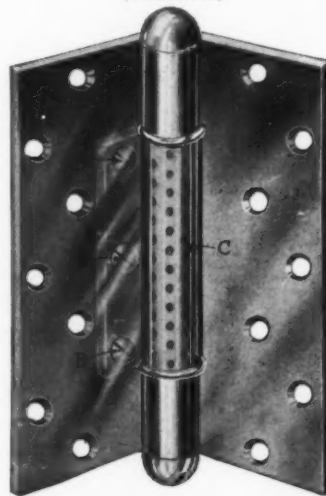
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RIXSON
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ELIMINATES SLAMMING

Perforated fiber sleeve (Note C) eliminates all possible chance of noise. The friction is applied by turning screws B-B. THERE IS MORE FRICTION CONTACT IN THIS HINGE THAN IN ANY OTHER FRICTION HINGE ON THE MARKET.

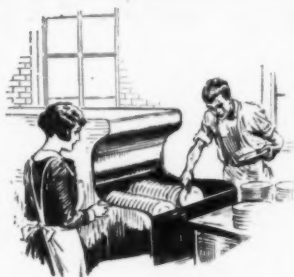
Well suited for classroom doors.

THE OSCAR C. RIXSON CO.

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she ever used"
—and
the cheapest,
too!**

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She also finds this remarkable sudsless material "cheapest to use" because so little is needed to clean. Since Oakite was introduced in these schools it has brought cleaning costs down to bed rock, and paid for itself in the savings effected.

You, too, can put your cleaning on this same economical basis. Write for our Service Man to call or for booklet containing money-saving suggestions for all types of school cleaning. No obligation.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada

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A message to administrators by the publishers of The Nation's Schools

THE constructive purpose which founded THE NATION'S SCHOOLS was the desire to make a practical contribution toward the solution of problems of school building, equipment, operation, maintenance, and the welfare of pupils. ¶ It is our belief that boards of education, superintendents, principals and architects will find its discussions authoritative and vital. ¶ In such a professional magazine, we feel that the advertising pages should be soundly educational, supplementing the editorial text and presenting their appeals on a high plane of conscientious service. School administrators will find advertised in THE NATION'S SCHOOLS products and services of interest to them, sponsored by concerns of ethical standing and wide technical knowledge.

¶ Here are a few excerpts from advertisements in this issue that discuss real school needs and offer materials genuinely designed to fill them.

"The school is only second to the home in forming the character and protecting the health of children at their most susceptible age. Beauty and cleanliness in school plumbing appointments inculcate a self-respecting appreciation of the reticences of life while fostering health habits."

"Noise is a constant irritating factor in schools. It disturbs concentration and is a strain on the nerves. More than one sensitive youngster has failed in his schoolwork because of this undue nerve-wear. And noise is equally hard on teachers, for it distracts their attention and wears down their patience. But you can easily spare your students this waste of mental energy."

"Proper planning understands the irreparable harm caused by poor lighting and improper ventilation and eliminates these barriers to the child's progress and future."

"Silence is a positive thing—noise is negative. In common parlance, silence means consent. It signifies smooth going, a harmonious working together of every part. *Silence is golden! It is a valued asset.* Noise, on the other hand, signalizes opposition, rough-going, discord. It is dross, waste. *Noise is a definite, costly liability in the schoolroom.*"

"There is a fallacy in the buying of liquid soap which should be exploded. Buying cheap soap is not economy. Nine times out of ten the price is lowered by merely adding water. . . . And remember, that the quality of the soap content is quite as important as the amount of soap solids."

"By using . . . we have been able to locate laboratories in any part of the building, conceal the piping in the floors and walls where necessary and have no trouble about the replacement of piping."

Only those offering approved products or services for schools are invited to use the advertising pages of THE NATION'S SCHOOLS.

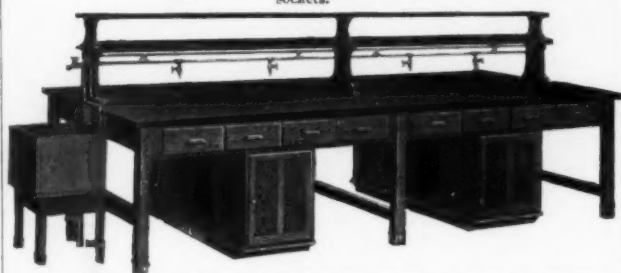
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Manufacturers of Guaranteed Laboratory and Library Furniture
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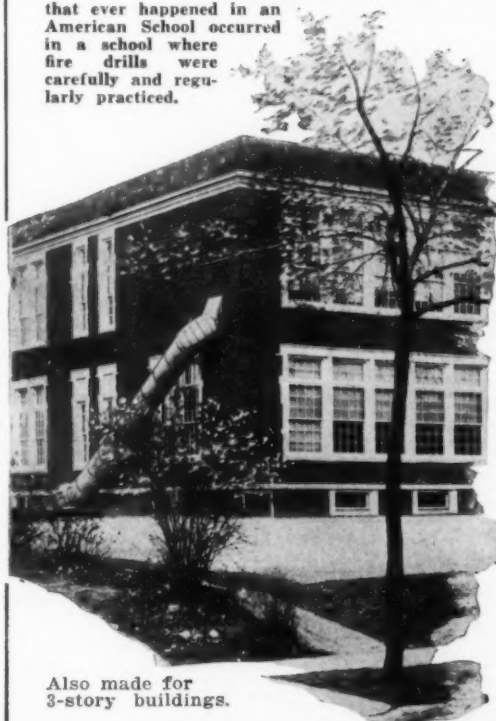
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FIRE DRILLS

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which according to fire statistics, is ten times more dangerous.

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Let us tell you how.

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Eliminates All Fire Hazard
NO FLYING SPARKS

Rubbish, Litter, Fire and Flame
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BURNS ALL RUBBISH QUICKLY

"Yard-Boy" can be placed anywhere and when filled is lighted by a match thru the opening at the top. No attention whatever is required during burning. The patented perforated inner flue creates a strong draught, thus making an active fire which quickly consumes all contents. Fire cannot smother, nor can the inner flue become clogged. The fire burns downward. At top of the stack the spark arrestor prevents flaming particles from escaping. "Yard-Boy" is made of heavy non-rusting and non-corroding steel, excepting grate bottom, which is grey iron casting. "Yard-Boy" always makes a neat appearance.

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... strength ... beauty
for all school installations



A large majority of the modern school buildings of the country, as well as public buildings of other types, are equipped with the Whale-bone-ite Closet Seat. Architects specify this seat solely because of its sanitary features and because of the long dependable service which it gives.

The Whale-bone-ite Seat is made of a heavy layer of Whale-bone-ite molded when soft under tremendous pressure around a core of laminated, alternating-grain layers of hardwood.

Thus the Whale-bone-ite Seat is one piece. There are no cracks or joints to harbor germs. No thin veneered surface to wear through. Easy to clean

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A tremendously strong hinge combines beauty with durability. This hinge is molded in one operation as an integral part of the seat, reinforced with metal casting. Thus there are no unsanitary crevices, nothing to corrode or work loose.

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THE BRUNSWICK-BALKE-COLLENDER CO., CHICAGO

Albany	Boston	Chicago	Dallas	Detroit	Kansas City	Minneapolis	Philadelphia	San Francisco	Tampa	Ottawa
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"At the Bayonne Junior High and Vocational School, we are now using the following Finnell equipment:

- 2—No. 17 Scrubbing and Polishing machines
- 2—No. 15 Scrubbing and Polishing machines
- 2—No. 10 Water absorbers
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"You will no doubt be interested in knowing that we have compared hand cleaning methods with the Finnell system of cleaning, and have found that the same number of men with Finnell equipment can do twice the work, getting a cleaner and more evenly scrubbed floor.

"As we have about 47,350 sq. feet of floor space, including hard wood, terrazzo, wood blocks, cork, spanish tile, and linoleum, the cleaning of these floors requires our keeping the labor bills at a minimum. We have therefore effected great saving by using the Finnell machines.

"We feel your equipment essential, in keeping any modern school building clean."

Respectfully yours,
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THE standards of to-day permit no compromise in the matter of providing clean and sanitary schools. Modern education demands them. The citizens of your community expect them. It is your responsibility to provide them. And cleanliness begins with CLEAN FLOORS.

Unless floors are clean it is practically impossible to keep any other part of the building clean. It is almost hopeless to influence habits of cleanliness in the pupils while permitting carelessness and slovenliness in the care of school room floors.

On the other hand, really clean floors in a school will develop a tendency to keep everything else clean. Clean surroundings foster cleanliness of person and cleanliness of thought.

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It polishes

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It oils—
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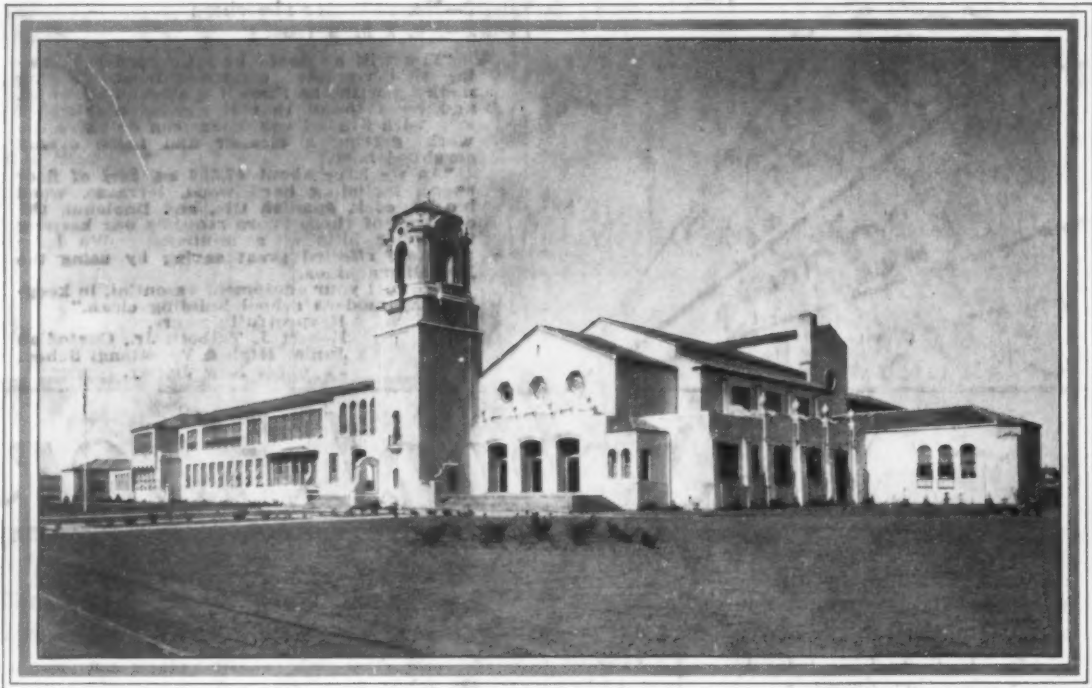
150 Pounds Pressure



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Protecting health; teaching self-respect

The school is only second to the home in forming the character and protecting the health of children at their most susceptible age. Beauty and cleanliness in school plumbing appointments inculcate a self-respect- ing appreciation of the reticences of life while fostering health habits. Numbers of the most modern school buildings have chosen Crane fixtures, valves, and fittings, to serve both these important ends.

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